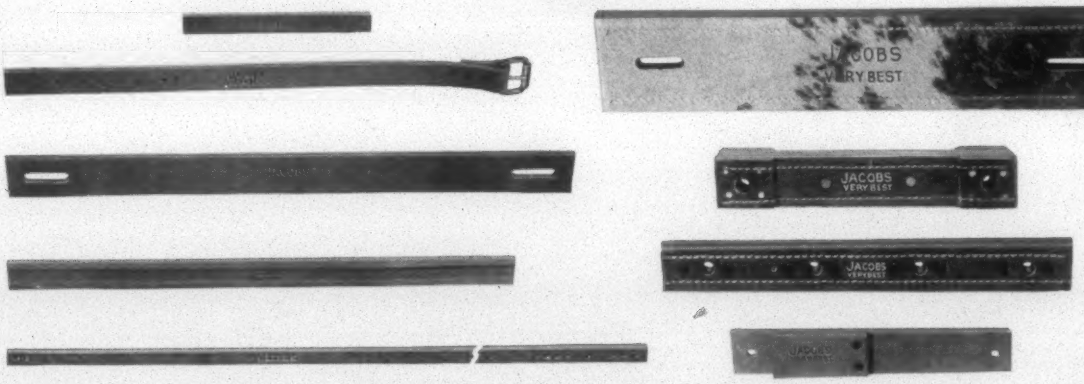
TEXTILE BULLETIN

VOL. 67 NOVEMBER 15, 1944 NO. 6

NOV 22 1944

LEATHER LOOM STRAPPING

JACOBS



Every piece of Jacobs Leather Loom Strapping is tailor-made to your own requirements from the finest Oak or Hairy Leather obtainable. Mill men, the world over, agree there's less loom fixing with Jacobs Leather Strapping.

JACOBS *Reinforced* VERYBEST

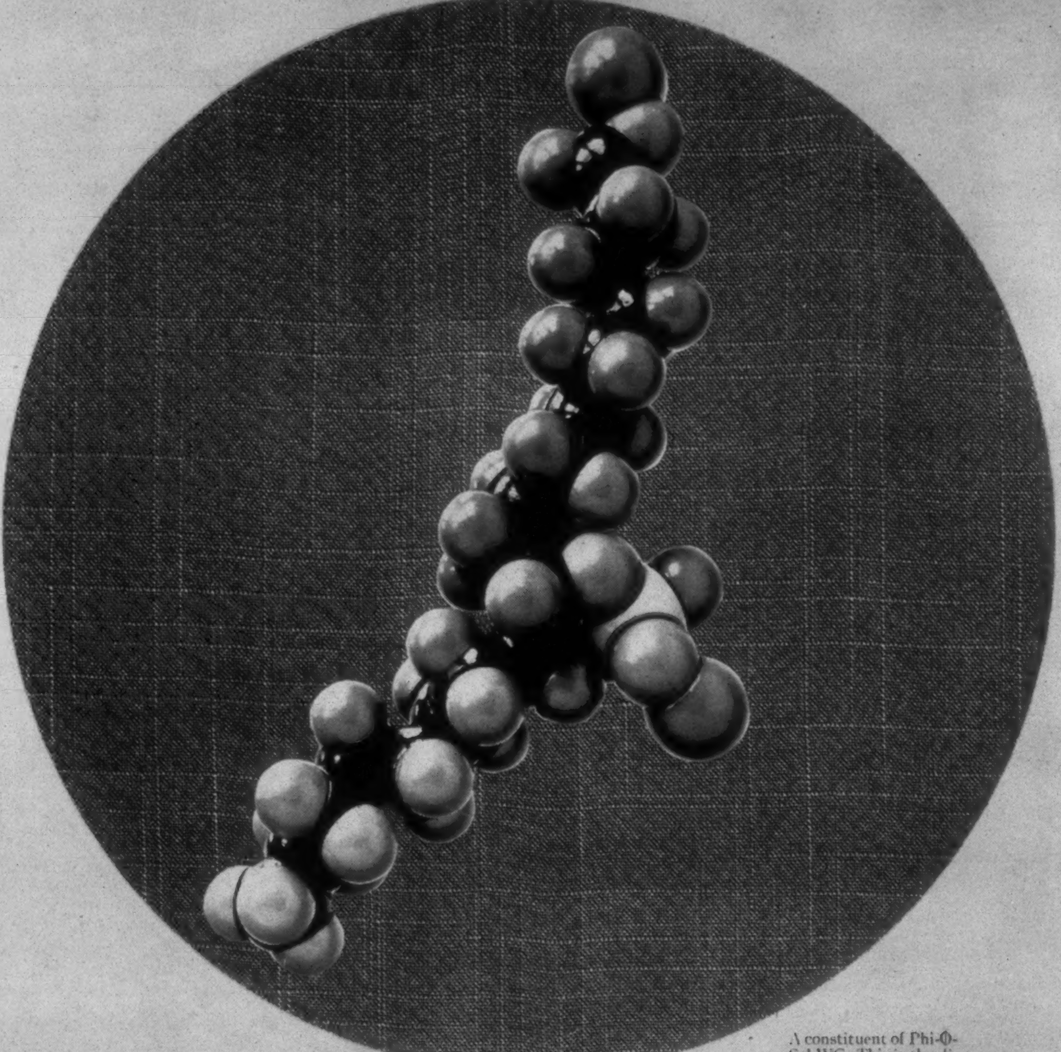
CHECK STRAP

12½% MORE wearing surface

More Gradual Checking • Less Loom Shock
Power Savings • Conformity to Picker Stick

E. H. JACOBS MFG. CO.
ESTABLISHED 1869
DANIELSON, CONN. CHARLOTTE, N. C.

ONYX



A constituent of Phi-Φ-Sol WG. This is the disodium salt of the half sulphuric ester of 10-hydroxy octadecanoic.

HELPING MAKE PHI-Φ-SOL WG TICK . . .

The molecular model pictured above, represents one of the constituents of Phi-Φ-Sol WG. This molecule is a contributing factor in a successful pattern. Onyx research has produced in Phi-Φ-Sol WG a wetting-out medium that enables textile mills to wet out more fabrics in less time and with greatly increased thoroughness, and what is of equal importance, handle a larger variety of wetting operations than ever before.

Your inquiries are solicited

onyx

ONYX OIL & CHEMICAL COMPANY
JERSEY CITY, N. J.
CHICAGO · PROVIDENCE · CHARLOTTE
IN CANADA: ONYX OIL & CHEMICAL CO., LTD.—MONTREAL · TORONTO

Published Semi-Monthly by Clark Publishing Company, 218 W. Morehead St., Charlotte, N. C. Subscription $1.50 per year in advance. Entered as second-class mail matter March 2, 1911, at Postoffice, Charlotte, N. C., under Act of Congress, March 2, 1897.

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WHICH TRAVERSING METHOD PROMISES BETTER KNITTING CONES AND LOWEST MAINTENANCE?

Major credit for the success of the Roto-Coner* is due the patented Rotary Traverse, shown at the right.

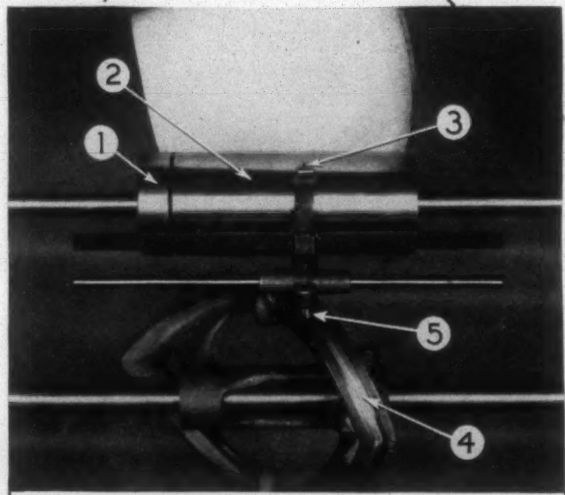
This one-piece combination driving drum and traverse guide improves cone quality because it eliminates the major causes of trouble at the knitting machine. It lowers maintenance costs because it takes the place of parts which are fast-wearing and difficult to keep in adjustment. (The Rotary Traverse needs no adjustment.)

A new edition of Bulletin 144, containing additional information, is now available. Write us for a copy.

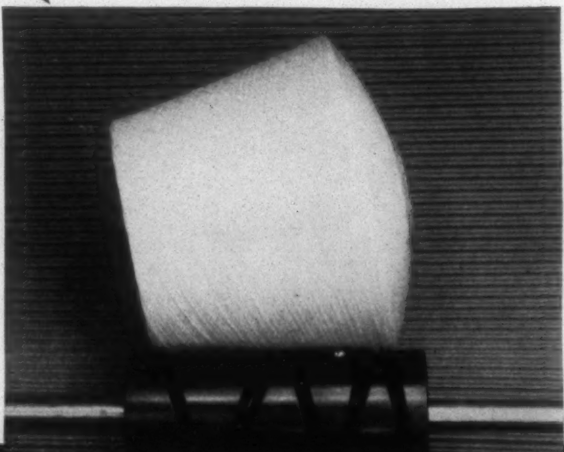
*Reg. U. S. Pat. Off.

Universal Winding Company

PROVIDENCE BOSTON UTICA PHILADELPHIA
CHARLOTTE ATLANTA



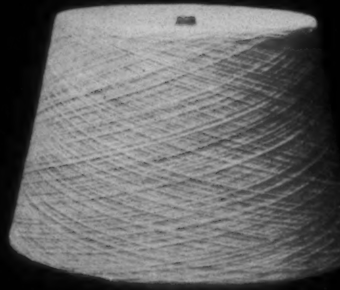
These are the parts which cause the troubles which the Roto-Coner* eliminates: (1) the slip drum, responsible for nipping the yarn and causing roll cuts . . . (2) the driving drum, whose speed is limited by the safe operating limit of the cam . . . (3) the traverse guide, which tends to chafe the yarn . . . (4) the cam, which must be regularly greased . . . (5) the cam roll which needs frequent replacement, else it will wear out the more expensive cam.



This is the Rotary Traverse which takes the place of all the parts shown left. It revolves at high speed**, in the same direction the yarn is traveling, gently guiding the yarn onto the package without chafing. The groove arrangement is standard for all yarn sizes, giving the desirable *minimum* number of winds. It never needs greasing or adjustment . . . is always uniform for all spindles . . . and is virtually good for the life of the machine. Plastic for cotton yarns, cast-iron for spun rayon and other yarns.

**550 YPM for paper coning

23-4-8



ROTO-CONER* LEESONA REG. U. S. PAT OFF.

Open-Wind Cones for Knitting

WARPING CONES · DYEING PACKAGES · PARALLEL TUBES FOR TWISTING

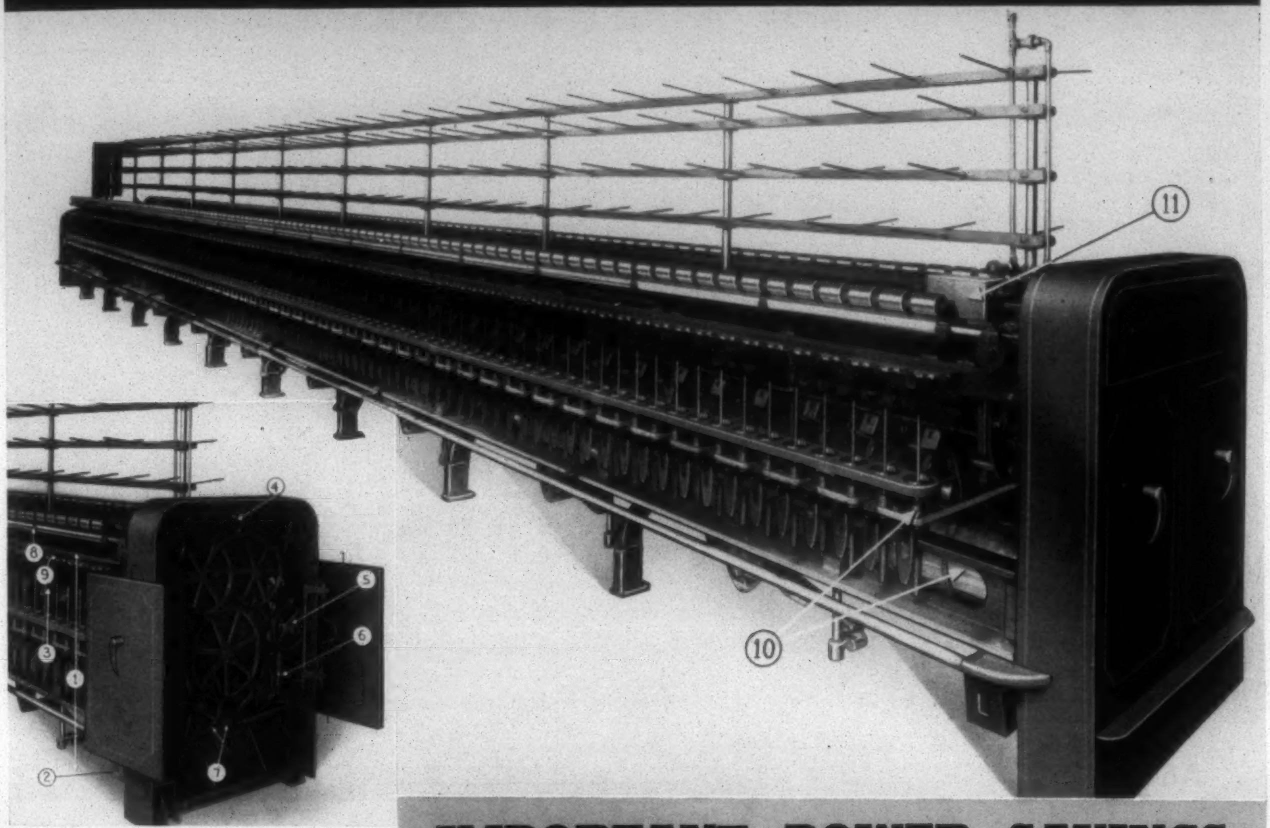
"WE *Like* TO DO BUSINESS *with* Staley's

Staley's capacity to produce and ability to deliver—backed by a consistent policy of cooperation and service—are vital factors that prompt mill owners, and other mill executives to say—"We *like* to do business with Staley's".

Staley's Textile Starches are 100% laboratory controlled in every step of the processing. This assures uniform quality and dependable performance from every shipment—day after day and year after year. Developed by skilled chemists, Staley's complete line of thick and thin-boiling starches is available for every specific textile use. Write, wire or telephone for information about the Staley Starches for your mill requirements.

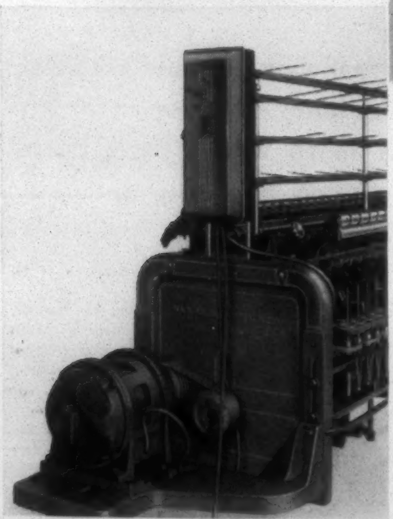
A. E. STALEY MANUFACTURING COMPANY
DECATUR ILLINOIS
Staley's CORN AND SOY BEAN PRODUCTS
ATLANTA, NEW YORK CITY, SPARTANBURG, CHICAGO, BOSTON

H & B MODEL "G" TWISTER



IMPORTANT POWER SAVINGS

ONE OF 11 MAJOR FEATURES



An installation of these machines before the war showed a considerable saving in power as well as smoothness of operation and high productive efficiency. Using a specially designed framing of rigid construction permits of the highest operating speeds without vibration and undue wear of all moving parts. The Head End is of the box type and easily accessible for all gearing changes. Cylinders are carried on anti-friction bearings and carefully balanced at speeds in excess of actual operation.

Those and other features as listed herewith are developments to meet the exacting demands of present day requirements.

Even if you can not obtain the proper preference rating to install this machine now, we suggest that you investigate its adaptability to your requirements so that you can include it in your modernization program when the proper time comes.

OTHER FEATURES

1. Built extra low (37" roller beam) for convenience of operation.

2. Model B builder. Builder chain increased in size and hardened to assure long life.

3. Reversible tension device, allowing spindles and cylinder to rotate in either direction.

4. Electric stop motion. When doors are open, machine stops.

5. Ring rail release for quick doffing.

6. Ball bearing thrust washer for builder drive, which eliminates dwelling at end of traverse.

7. Helical cut cylinder and jack gears eliminate noise and assure longer life.

8. Moraine steps for bottom roll bearings eliminate oiling.

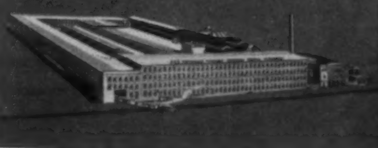
9. New type traversing metallic thread board.

10. Ball bearing cylinder and spindles for power saving.

11. Automatic water feed control.

H&B

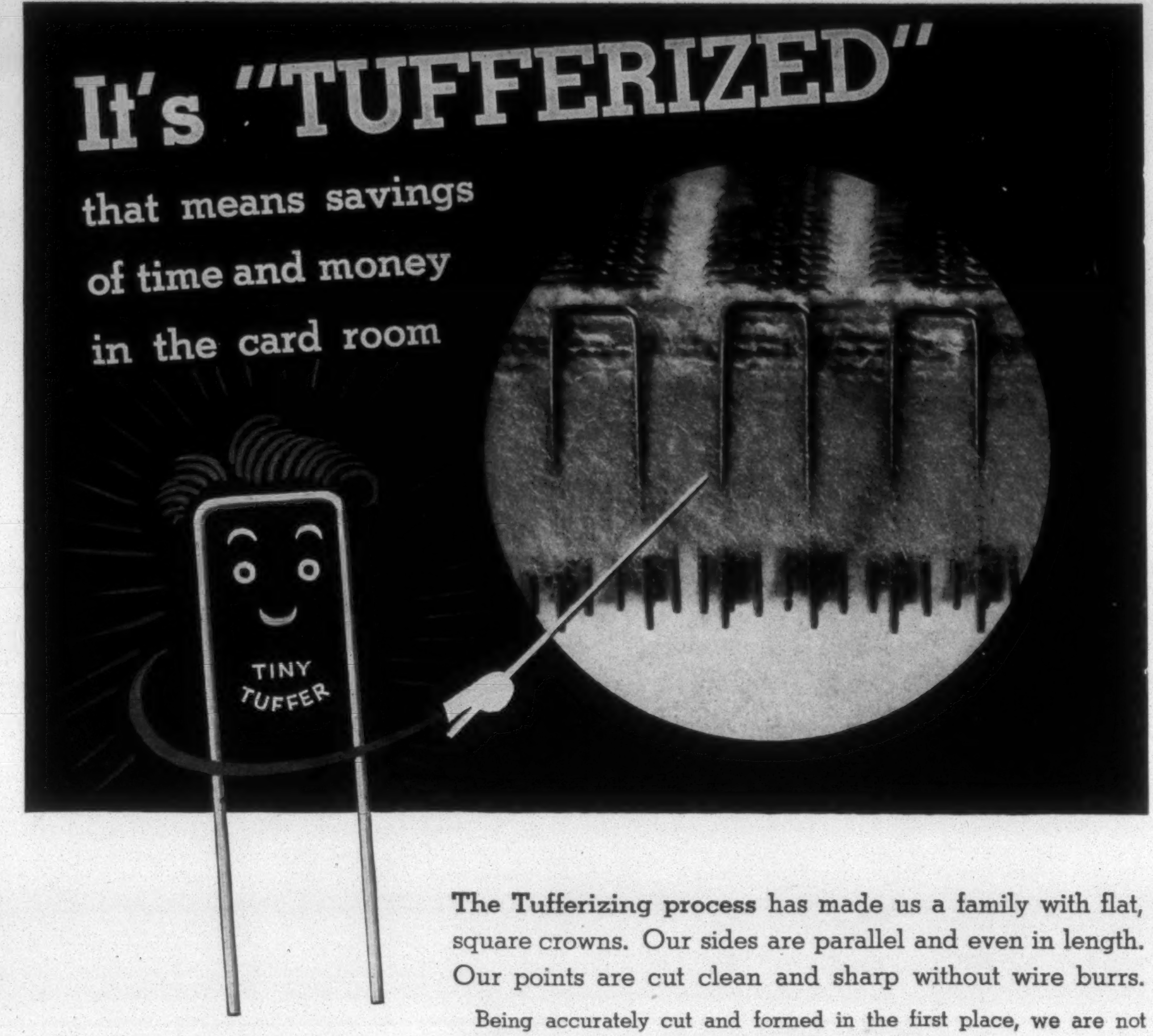
TEXTILE MILL MACHINERY



H & B AMERICAN MACHINE COMPANY

PLANT AT PAWTUCKET, RHODE ISLAND

Boston Office, 161 Devonshire Street; Atlanta Office, 815 Citizens and Southern National Bank Building; Charlotte Office, 1201 3 Johnston Building; Export Department, United States Machinery Co., 90 Broad Street, New York 4 U. S. A.



It's "TUFFERIZED"

that means savings of time and money in the card room

The Tufferizing process has made us a family with flat, square crowns. Our sides are parallel and even in length. Our points are cut clean and sharp without wire burrs.

Being accurately cut and formed in the first place, we are not robbed of temper by excessive grinding to get us in shape to go on your cards. Our flat, square crowns nestle snugly between the cylinder and foundation so you can draw us up smoothly and evenly. Our sides remain parallel and our points stay in position at all times.

This means easier stripping, less grinding, longer life, better carding. You can't do better than to *standardize on Tuffer products.*

TUFFER PRODUCTS

Card Clothing for Woolen, Worsted, Cotton, Asbestos and Silk Cards • Napper Clothing, Brush Clothing, Strickles, Emery Fillets. Top Flats Recovered and extra sets loaned at all plants. Lickerins and Garnet Cylinders from 4 to 30 inches and Metallic Card Breasts Rewired at Southern Plant • Midgley Patented, and Howard's Special Hand Stripping Cards • Inserted Eye & Regular Wire Heddles

CYLINDER
FLAT, SQUARE CROWNS THAT SEAT FIRMLY IN THE FOUNDATION
TINY TUFFER
SIDES PARALLEL
STRIPS EASIER—LESS GRINDING

TUFFER CARD CLOTHING

HOWARD BROS. MFG. CO.

WORCESTER, MASSACHUSETTS

Southern Plants: Atlanta, Ga., Gastonia, N. C. **Branch Offices:** Philadelphia, Dallas **Canadian Agents:** Colwool Accessories, Ltd., Toronto 2

SUPERCLEAR
The purest type of printing thickener available!

The printing gum that stays clear

• Superclear is compatible with all dyestuffs, is easily soluble and removed with a minimum of washing. It does not precipitate with acids or alkalis. Superclear will not become ropey or separate on the machine and does not scratch or stick in the engraving, or mark when the machine is stopped.

Superclear is a natural product—not the result of chemical processing. It does not react with or become part of the chemicals and dyestuffs which it thickens. Superclear is inert and acts only as a thickener. It does not flush off color but is a guaranty of color value.

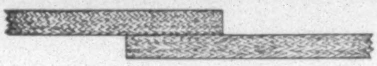
Make a comparison of Superclear with any product you now use. Let your own tests convince you of Superclear's superiority. A free sample will be sent at once.

WOLF BRAND PRODUCTS

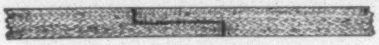
JACQUES WOLF & CO.
Chemicals
PASSAIC, N. J.
OTHER PLANTS: CARLSTADT, N. J. • LOS ANGELES, CALIF.
WAREHOUSES: Providence, R. I., Philadelphia, Pa., Utica, N. Y., Chicago, Ill., Greenville, S. C., Chattanooga, Knoxville, Tenn.

SIDEBOTHAM'S PATENTED SPINNING TAPE BANISHES THOSE SPINDLE "BUMPS"

"The Secret is in the Lap"



THE CONVENTIONAL TAPE
Has Double Thickness Laps



SIDEBOTHAM'S PATENTED LAP
Permits Same Thickness Throughout

RIGHT IN PRINCIPLE – RIGHT IN SERVICE

SIDEBOTHAM'S TAPE IS ALWAYS IN CONTACT WITH THE WHORL

insuring

- Longer life, as proved by independent mill tests
- More even spindle speed
- More even yarn twist
- Less wear on bolster
- Less power consumption.

More Than 200 Mills Are Enthusiastic Users of Sidebotham's Spinning Tape

TRY A ROLL IN YOUR OWN MILL

Simply select a tape of correct length from one of your frames; cut it at any point except at Lap; roll it up and mail it to us with your trial order. Then

COMPARE THE ACTUAL PERFORMANCE

MADE IN THREE WEIGHTS AND ALL WIDTHS

No. 2658—Regular	40-42	yards per lb.
No. 3750—Medium	54-56	" " "
No. 3572—Thin	62-63	" " "

(based on ⅝" widths)

Comes in rolls of continuous and uniform lengths. All laps 3".

WOVEN TO YOUR LENGTH SPECIFICATION

Manufactured by John Sidebotham, Inc., Frankford, Philadelphia, Pa.

Sold Exclusively By

TEXTILE SPECIALTY COMPANY

P. O. BOX 1297
GREENSBORO, N. C.

Representatives

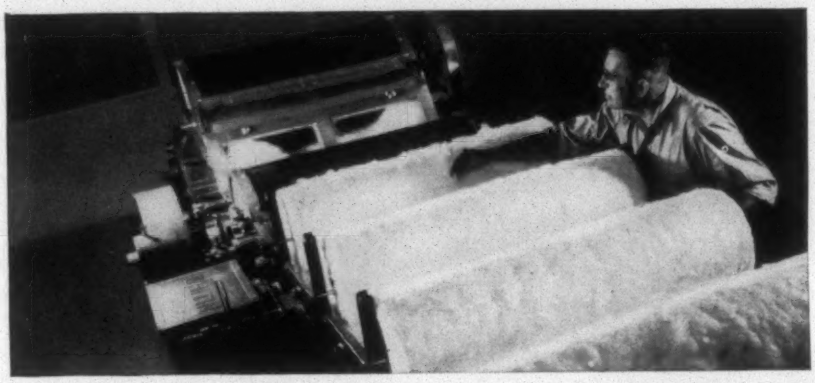
GEORGIA AND ALABAMA
J. H. Slaughter, 311 Aberdeen Drive, Greenville, S. C.

NEW ENGLAND AND CANADA
Matthews Equipment Co., 93-A Broadway, Providence 3, R. I.

RAYON REPORTS

Published Monthly by American Viscose Corporation, New York, N.Y. NOVEMBER, 1944

PRODUCTION MACHINERY IN RESEARCH PLANT



One of the unique features of the Textile Research Department of the American Viscose Corporation at Marcus Hook, Pa., is the machinery installed there. These machines are commercial mill size; and they include all types for the handling of rayon from raw stock to finished yarns or fabrics. Shown here is a blend being produced on a Whitin finished picker.

QUAKER LACE TABLECLOTHS PASS "CROWN" TESTS

A new line of fine lace tablecloths... 75% filament viscose rayon and 25% cotton... are being marketed under the CROWN Tested Amber Tag. Made by the Quaker Lace Company, they are unusual not only for their beauty, but also for their serviceability.

CROWN Tests predict they can be hand-washed or machine-washed at 105° F., without any special care. They have good resistance to fading and sunlight; no color loss was observed after 40 hours in the Fadeometer. Throughout all laundering tests, their finish remained unchanged.

The cloth shown here was machine-wash tested 15 times. Others have been washed up to 51 times.

VICTORY SHIFTS AT A. V. C. MEADVILLE PLANT

The Meadville, Pa., plant of the American Viscose Corporation, which manufactures acetate rayon yarn, has inaugurated "victory shifts" on which high school boys and girls 16 years of age or older go to work on general production jobs to aid in the war effort. Students are being used on light work only, so they will not be too tired to do their school work properly. The students working the "victory shifts" are actually making a real contribution to the war effort, since many of the plant's products are made under war contract for use by the Armed Forces.

NEW TREATED RAYON CLOTH FOR BOOKBINDING

A new bookbinding cloth, called "Terek Raylin," has been developed by the Athol Manufacturing Company, Athol, Mass. The new product is a viscose process rayon taffeta impregnated with pyroxylin.

Additional strength and brightness of color are imparted by the treatment of the fabric. Book covers made with this cloth can be printed as well as die-stamped, and it lends itself readily to all binding operations.

First important application of the new cloth is a book on baby care just published by Simon & Schuster. The book was printed by American Book-Stratford Press.

The cloth is an outgrowth of research on war products conducted by Athol in cooperation with the Massachusetts Institute of Technology. The development of a new process for coating and impregnating fabrics for life raft sails and other military uses has made this peacetime use for rayon possible, according to the company.

MAKE USE OF 4-PLY SERVICE

1. **PRODUCT RESEARCH** Helps you get the right yarn or fiber.
2. **FABRIC DEVELOPMENT** Helps you design new fabrics.
3. **TEXTILE RESEARCH** Helps solve production and finishing problems.
4. **"CROWN" TESTED** Helps provide scientific selling facts.

AMERICAN VISCOSE CORPORATION

Producer of

CROWN* *Rayon Yarns and Staple Fibers*

Sales Offices: 350 Fifth Avenue, N. Y. C. 1; Providence, R. I.; Charlotte, N. C.; Philadelphia, Pa.

Plants at: Marcus Hook, Pa.; Roanoke, Va.; Lewistown, Pa.; Nitro, W. Va.; Parkersburg, W. Va.; Meadville, Pa.; Front Royal, Va.

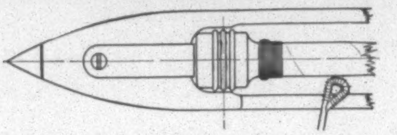
*Reg. U. S. Pat. Off.

CROWN TESTED RAYON FABRIC

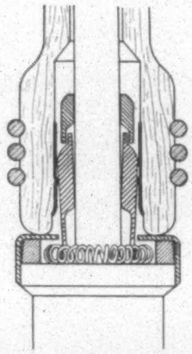
To Meet The Growing Demand For Feeler Goods

Aids To Weaving

Start With

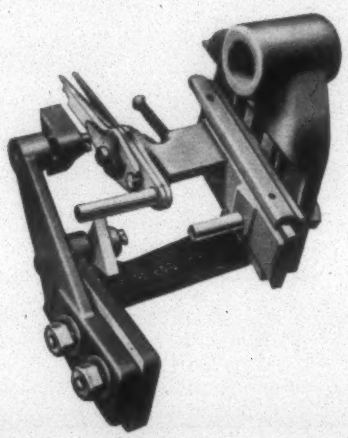


A Bunch Properly Made by Draper Bunch Builder



Stimpson Clutch and
Patent Bobbin Bushing
Insure
Even Yarn Packages
With Properly Placed Bunch

Sure Fire Feeler Action
With Minimum Waste

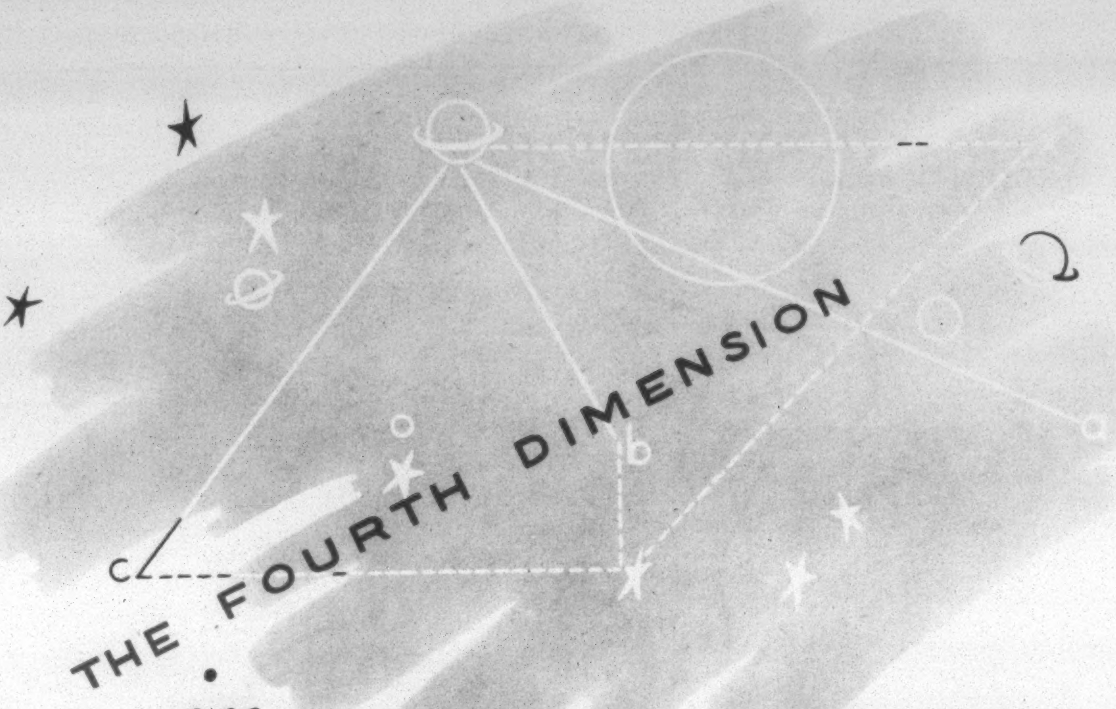


No Trailing Ends with
Stafford Thread Cutter

Properly Made Draper Bobbins
Complete the Story

Premium Priced Goods

Draper Corporation
Atlanta Hopedale Spartanburg

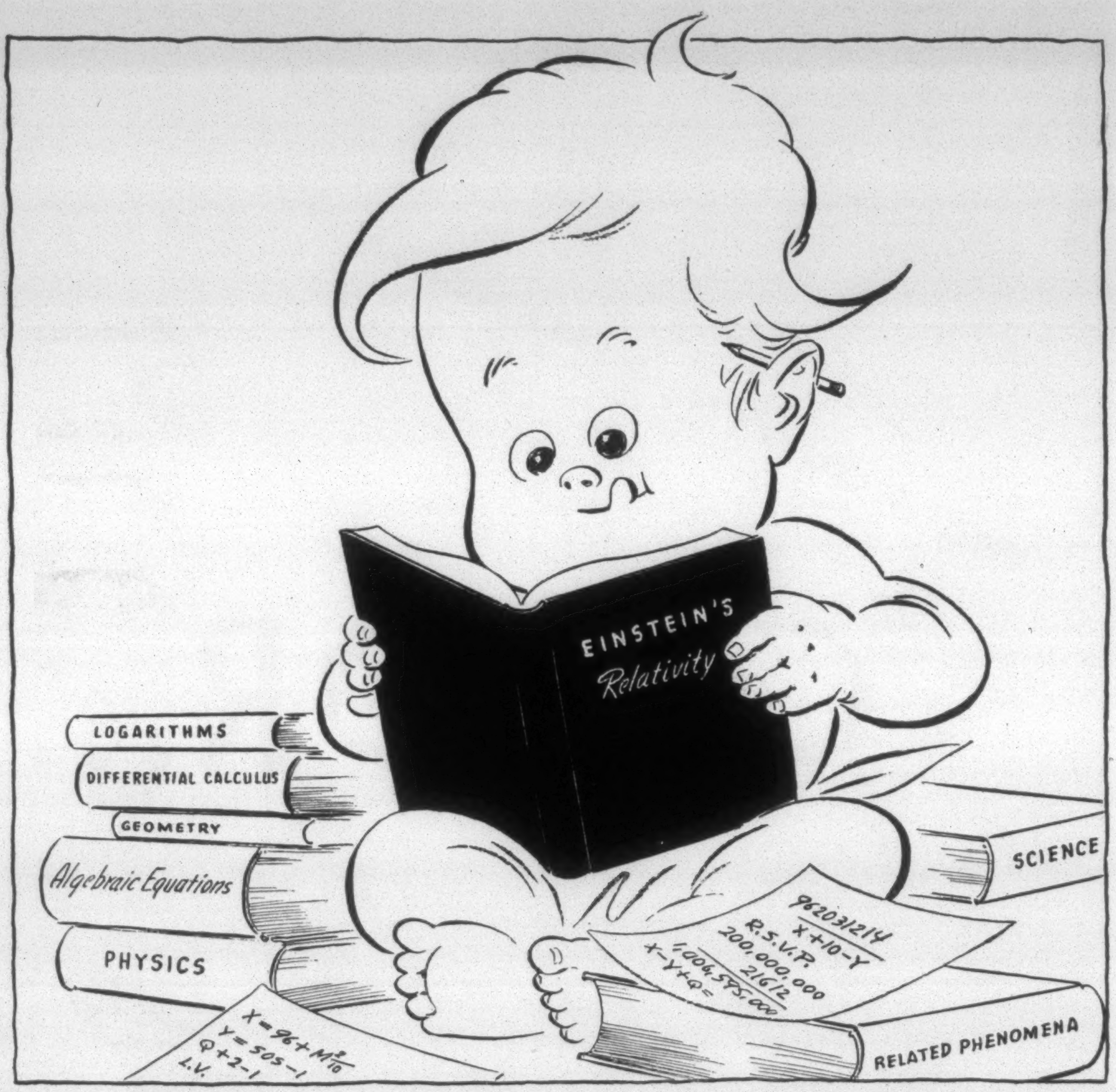


THE FOURTH DIMENSION

in COLOR...

Relativity? No . . . just the application of unceasing research into the new chemistry constantly developing . . . analysis of formulae to anticipate new textiles, new uses, new needs in color. These constitute the fourth dimensions of our efforts for you, for the dyestuffs of tomorrow.

DYESTUFFS • CHEMICALS • INTERMEDIATES
CIBA
COMPANY INC.
Greenwich & Morton Sts.
NEW YORK
BOSTON · CHICAGO · MONTREAL · CHARLOTTE
PROVIDENCE · SAN FRANCISCO · PHILADELPHIA
VAT DYES OF THE DOW CHEMICAL COMPANY



He May be a Genius...but what can he DO?

Yes, many brilliant ideas have been born of the War Effort. But how useful they will prove in the Winning of the Peace — there's another story remaining to be told. In fact, not even all the parents of these brainchildren are sure how they will grow up, or what employment they will find, in civil life.

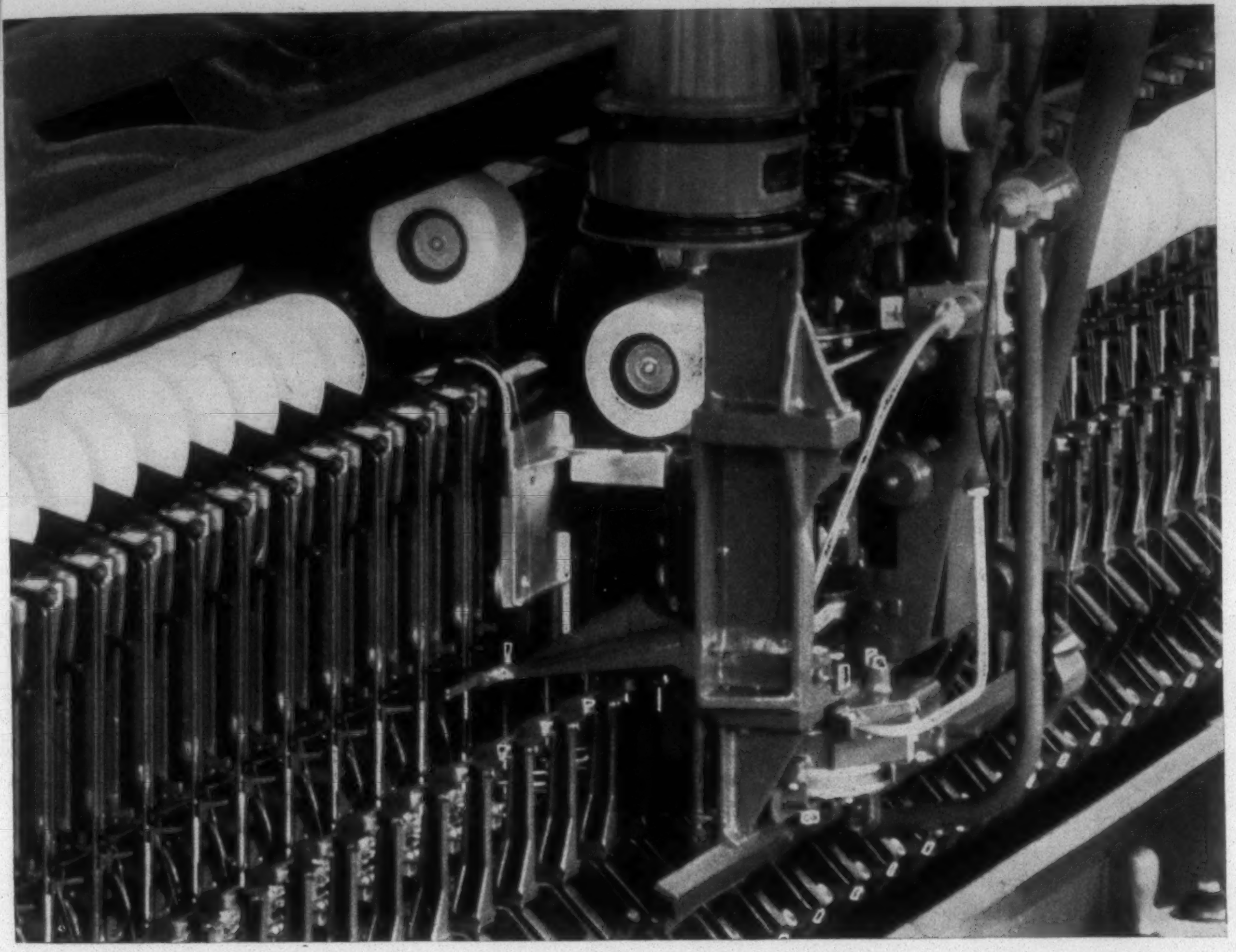
One thing is sure: There's a lot of hard work ahead, in adapting, re-shaping, and developing these prodigies. For it takes time to turn from the destructive aims of war to the constructive arts of peace. Here at the Loom Works, we have our own fair share of these promising puzzles . . . in mechanics, electronics, hydraulics, metallurgy, optics, photography, plastics, and so on. But any outgrowths of these will be applied to C & K Looms only when the value of their applications can be conclusively proven in terms of consistently higher weave-room efficiency.

And here's another thing that's sure: There will be no sudden flood of half-baked magic from C & K's engineering laboratories the day after Tokyo is occupied . . . any more than there will be from *any* concern that considers its customers and its future. So don't wait for any complete new "miracle" looms. Take them as they come, with their gradual *proven improvements,* and keep up with the progress parade . . . *don't wait by the roadside and let it pass you by.*

Crompton & Knowles Loom Works

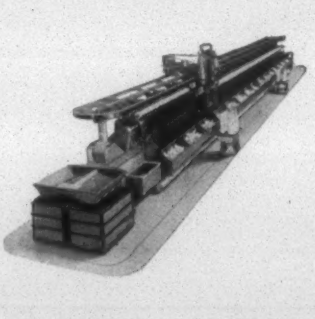
WORCESTER 1, MASSACHUSETTS, U. S. A.
PHILADELPHIA, PA. • CHARLOTTE, N. C. • ALLENTOWN, PA.

BRIDGING THE GAP between Today's War Weapons . . . and their New Uses in Tomorrow's Looms



You Want Machines that Keep Running

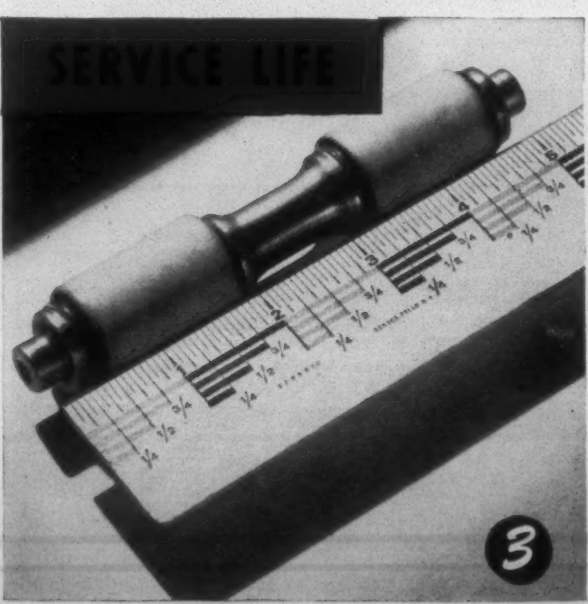
WHEN you are trying to do a good job of making textiles, you want machines that keep running without a lot of down time for repairs and service. Machines that don't keep running do two things — they cut production and they run up the cost of the goods. And operators lose time when their machines are out of order. . . . If you will check the records of Barber-Colman Automatic Spoolers and Super-Speed Warpers, you will find they *do* keep running. That is not just luck. We build these machines to keep service costs low, because we realize how much that means to you. Throughout the machine we use good materials and workmanship so the parts will have long life with little wear. During the past twenty-five years we have made many changes and improvements which have bettered performance and reduced maintenance costs. All this adds up to: If you want to produce better war goods faster, and at lower cost, use the Barber-Colman System.



BARBER-COLMAN
Automatic
SPOOLER

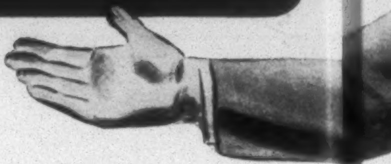
AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • TWISTER CREELS • MOISTURE CONTENT CONTROLS

BARBER-COLMAN COMPANY
ROCKFORD, ILLINOIS, U. S. A.
FRAMINGHAM, MASS., U. S. A. GREENVILLE, S. C., U. S. A. MANCHESTER, ENGLAND



PUT ANY ROLL COVERING MATERIAL TO THESE TESTS

... you'll find Spinna superior in ...



1 Rub the material against a smooth surface, pressing down slant-wise. If it glides along smoothly, that's bad. But Spinna Calf will move jerkily, for its high friction surface will hold it back. This test shows that Spinna will do a better drafting job . . . and will carry waste well back onto the clearer.

2 Lay a length of yarn on a table and press a roll on top of it, rolling back and forth under moderate pressure. Then look quickly at the cot. If there is a groove left in the covering, that's bad. But the triple resiliency of Spinna Calf allows it to take an ordinary hard end and recover its original smooth surface without delay.

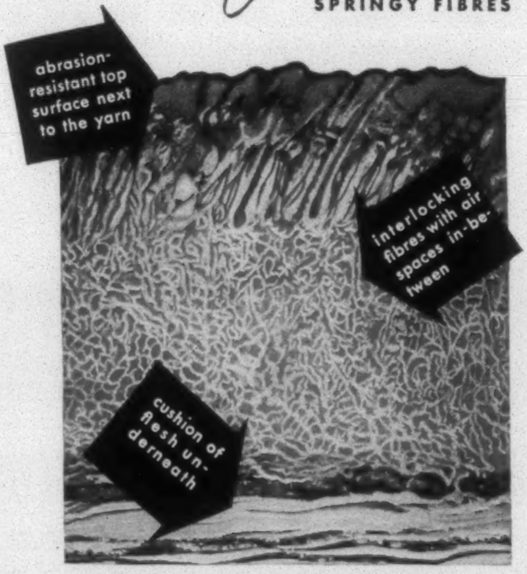
3 Take a roll off the frame and place it against a straight edge. If the traversing action of the yarn has caused the covering to spread out toward the edges, that's bad. But a Spinna cot will hold its shape longer because the triple-resilient leather springs right back after the yarn has forced it to one side.

★ ★ ★

For freedom from the troubles that may interfere with spinning frame efficiency and yarn quality . . . and for the longer life that Spinna Calf's strong-wearing surface promises . . . tell your roll coverer: "Spinna Calf".

Lively
SPINNA CALF
ROLL COVERING
It's Triple Resilient

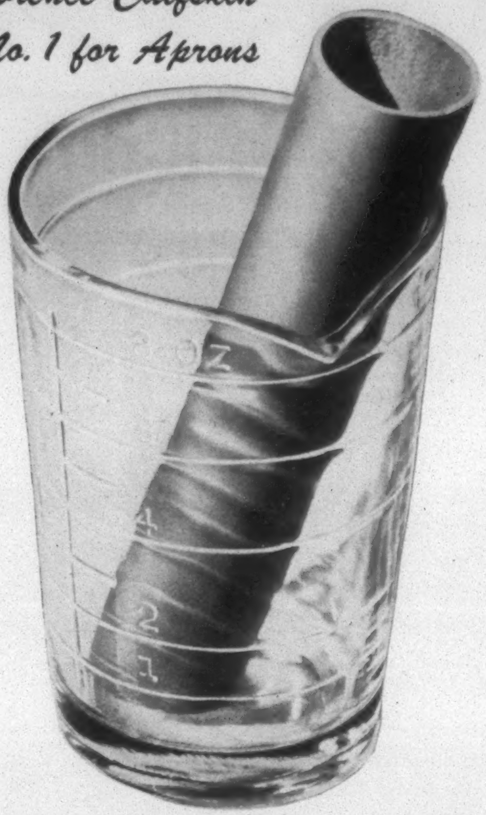
Spinna Calf.. AIR CUSHIONS IN A NETWORK OF TOUGH, SPRINGY FIBRES


abrasion-resistant top surface next to the yarn
interlocking fibres with air spaces in-between
cushion of flesh underneath

"If you want roll covering that is adjustable to all counts . . . can take ordinary hard ends without leaving grooves . . . and stays kind to the yarn for up to 18 months and more in front line positions . . . then Spinna Calf — the most generally-used calfskin — is your best choice."

CALFSKIN ABSORBS MOISTURE

One reason why Lawrence Calfskin is No. 1 for Aprons



Moisture, oil or any gummy deposits are quickly "soaked up by a *leather* apron. In addition, Lawrence Calfskin Apron Leathers are impregnated with a special hygroscopic ingredient which *increases* absorption.

Thus, moisture which if remaining on the surface might interfere with drafting, is drawn inside the leather, not only helping to lubricate the fibres but also to increase *conductivity*. Static troubles are less on frames equipped with Lawrence Calfskin, because more of the static is *removed* from the yarn, improving the drafting and eliminating the nuisance of "crazy" yarn.

Lawrence Calfskin Apron Leather, chrome-tanned and bark-tanned, is first choice, more often, among various apron types. Begin to specify Lawrence Calfskins in your aprons and note how much better the yarn runs. You'll also benefit from the fact that they are furnished *open-end* for quick replacement, even in bottom positions, without having to tear down the frame or mix up apron types.

LAWRENCE CALFSKINS

1st Choice for Aprons

A. C. LAWRENCE LEATHER COMPANY

PEABODY, MASS. **GREENVILLE, S. C.**

Selling Agents

Matthews Equipment Company, Providence, R. I. . . . New England

BETTER Lubrication Means Better Maintenance

Is difficult maintenance a problem? Maybe excessive wear due to inefficient lubrication is the cause. That's where Sinclair Lubricants can help.

Sinclair LILY WHITE OILS are non-gumming, non-sludging . . . assure cool operation and negligible drag at highest spindle needs. NO-DRIP LUBRICANTS resist throw even in worn comb boxes. BEARING GREASE AF for pressure-fitted bearings has the added advantages of color neutrality and water solubility.

. . .

(Write for "The Service Factor"—published periodically and devoted to the solution of lubricating problems.)

SINCLAIR TEXTILE LUBRICANTS

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TEXTILE BULLETIN

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Engineering with Relation to Modern Textile Machinery

By NATHANIEL M. MITCHELL, President
Barnes Textile Associates, Inc.

STANDARDS of living will be the common denominator for industry in the coming post-war period. The standards of living for the textile industry, in the United States, depend mainly upon its ability to reconstruct and modernize its mechanical equipment and at the same time establish and maintain the world's highest man-hour productivity with mutually satisfactory labor-management relations. Standards of living are measurably influenced by working conditions provided by industry.

Foreign competition with cheap labor will undoubtedly be a dominating problem from three to five years after the cessation of hostilities, which will unquestionably have its influence on living standards at that time.

The field of industrial and mechanical engineering in the textile industry covers all phases of mechanical operations and labor-management relations. The engineer's process of treating with individual plant problems resolves itself around determining the facts of each case, arranging the facts in proper perspective, and distilling the truth from them in the retort of experience.

This treatment of the subject "Engineering with Relation to Modern Textile Machinery" embraces consideration of typical conditions in the industry as well as an analysis of the recently developed machinery which will be immediately available at the start of the post-war period, and a brief analysis of future developments in textile machinery under consideration by some of the textile machinery manufacturers.

Analysis of current accomplishments in the textile industry indicates that the majority of plants do not obtain full normal production efficiencies from either machinery or operatives. In general this failure can be attributed to neglect rather than to ignorance.

The Industrial Engineer's Task

The industrial engineer's function in treating with mill problems is to assist management, by conducting carefully planned investigations and studies of sub-standard situations and recording all collected facts in such a manner that relevant items may be readily considered. This process establishes a method for managements' use in treating with subsequent problems.

In the majority of instances investigations uncover one or more of the following facts: (1) The maximum or anticipated normal production levels of the machinery in question have not been accurately calculated for general use; (2) The proper methods of operation have not been determined, explained or demonstrated and inaugurated by management; (3) In the event a newly installed machine is an improvement over an older model, its advantages have not been explained to the operatives; (4) No effort has been given to simplify methods of operation, having as its objective the reduction of wasted energy; increased production per machine and man-hour; and improved quality; (5) Actual running conditions in terms of measured time utilization and interferences with operating activity have not been determined through studies of operations; (6) Machinery is not given periodical examination and regularly scheduled overhauling; and (7) General machinery adjustment and repairing practices are not given proper supervision.

Improved Relationships

In the great majority of instances the uncovering of these conditions, as well as many others, is immediately followed by the inauguration of corrective measures which not only result in increased production efficiency, but bring about improved labor-management relations at the same time.

The goal of the textile industry must be maximum production per man and machine hour. The man-hour production goal cannot be achieved without satisfactory labor relations. The machine-hour production goal cannot be realized without the replacement of all obsolete machinery with modern units as soon as new machinery becomes available. The full mechanical value of the various types of productive textile machinery cannot be obtained unless proper mechanical conditions are maintained.

The full normal first quality production of machinery and operatives cannot be achieved unless carefully planned methods are scheduled and the operatives receive proper training by competent instructors. The desired mechanical condition can be obtained by adhering to prescribed settings, speeds and adjustments, established by the respective mill managements or the machinery manufacturers, or by consulting engineers, as desired.

The operative instruction benefits can be realized only when all key men in management from top to bottom believe in the program and throw their weight in its support. The most modern machine built cannot produce efficiently unless properly engineered and operated.

The industrial engineer's position in relation to modern textile machinery is of a necessity inquisitive in nature and co-operative in function. Newly-designed machinery generally requires extensive study in actual operation in order that standards of speeds, settings, production capacities, controlled and uncontrolled interferences, or stoppages may be established. Methods of operations are studied in order that they may be simplified all possible before establishing operating schedules and rates of pay.

No Sensations Immediately

The various textile machinery manufacturers have developed and produced many highly worthwhile improvements in their machinery over the past few years. It is to be anticipated that all of the machinery manufacturers will present improvements of a sensational nature in the not far distant future but it is doubtful that any changes in general design will be made available until several months or years after the cessation of hostilities.

Practically all of the textile machinery manufacturers have been and are still concentrating their plants on work for the armed services, which has naturally retarded development and experimental work. They anticipate, however, being able to get back into line production on standard models of machinery immediately following their completion of government orders.

The major types and classifications of textile machinery which are being considered as available for inclusion in post-war modernization programs are as follows: (a) New types of opening, dusting and blooming machinery for cotton, rayon, wool and synthetic blends; (b) Improved single process picking for cotton, rayon and synthetic blends; (c) Improved design of cards for cotton, wool, worsted, rayon and synthetic blends; (d) New design of drawing frames for cotton and revised processing for worsted drawing; (e) Single process long draft roving frames for cotton, rayon and synthetic blends; (f) Long draft larger package spinning; (g) Various types of cone and cheese winders and warpers for cotton, rayon, wool, worsted and synthetic blends; (h) New models of bobbin quillers; (i) High speed slashers for cotton, rayon and synthetic blends; (j) Latest models of single shuttle looms and box looms for cotton, rayon, synthetic blends, wool and worsted; (k) New developments in bleaching and wet finishing equipment for cotton, rayon and wool fabrics; and (l) Miscellaneous equipment directely associated with preparatory machinery.

More and more emphasis is being put on the role of engineering in post-war textile manufacturing. The accompanying paper, presented at a meeting of the American Association of Textile Technologists, throws added light on some thoughs brought out by Elliot B. Grover of the North Carolina school of textiles in recent talks before members of the Southern Textile Association. More information about this subject will be found on the following page.

The research and development facilities of practically all of the textile machinery manufacturing companies were put to the disposal of the government at the outset of war procurement activities and in practically every instance their full time has been devoted in this effort. There has been a very definite gain to these organizations as a result of their devotion to war engineering projects because they have been brought in contact with scientists and engineers whom they otherwise would never have met. These contacts have familiarized the textile engineers with physical principles and materials which they have never used.

It is naturally to be anticipated that the textile machinery manufacturers will use many of the war developments in solving some of their past problems and in the promotion of advanced improvements in the machinery which will be made available during the post-war period. Many post-war planners, however, unthinkingly have expressed the thought that these improvements or developments will be made immediately available at the start of the post-war period. The broadening of the scope of information and ideas of the textile machinery manufacturing development engineers embraces new materials such as aluminum, magnesium alloys, plastics and new types of steel. Electronic and hydraulic devices have also been unfolded in these contacts. While the new materials and devices will be available at the start of the post-war period, it must be recognized that a tremendous amount of engineering research must take place before the tested practicability of their use can be determined to a degree that will permit their use in a commercial way.

Standards Are Necessary

The various units of textile manufacturing machinery are all built for definite specified settings, adjustments and operating speeds at which they can perform at a maximum degree of efficiency. There is a definable line of limitation in the type of materials which the various machines are designed to process, and there are determinable schedules of lubrication, upkeep, etc., for all units. Textile manufacturing management's principal obligation, as related to its machinery, is to accept the responsibility of standardizing all relevant operating data on the basis of either its own observations or from the textile machinery manufacturers or, as has been earlier mentioned, from the consulting engineering field. Through the use of these standards they can inaugurate schedules of methods, with controls which will insure obtaining the full mechanical value and maximum machine-hour production of their machinery.

The maximum machine-hour production, however, cannot be realized until satisfactory labor relations are obtained and maintained. Textile mill management must look deeply into the subject of labor-management relations and use every idea or tool available to not only create harmonious working conditions from a mechanical standpoint, but investigate, adjust or correct, and establish physical conditions from the standpoint of energy input and physical demands which will attract rather than repel potential employees.

The attainment of standardized normal energy input requirements, and proper control of mechanical conditions, will enable our textile industry to measurably obtain its goal of "maximum production per man and machine hour."

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TIGHT BINDING

TEXTILE ENGINEERING

By JOHN A. McPHERSON

John A. McPherson, left, recently formed his own firm at Greenville, S. C., which will supply engineering services to the textile industry. His 40 years' experience includes work as chief engineer for J. E. Sirrine & Co., a connection severed last year. He has associated with him architectural and engineering organizations that will permit the design and execution of any type of plant necessary for the production of textiles. The policy and aim of John A. McPherson Co. is to mechanize productive process to the maximum extent economically possible.

THIS article outlines some of the principles of textile engineering design that the author believes necessary in the modernization and the design of textile plants to meet conditions to be faced by this industry in the future. It is based on the theory that greater production must come from machinery and power; and labor's job will be to supply intelligent supervision and operating control. This means that equipment must be designed to permit greater production per operative and to utilize fully automatic and mechanical devices to perform many operations now done by labor.

Textiles in the past has been relatively a low-paid industry. Its present equipment and processes are predicated on this basis. This advantage of low wages is gone and few question that the industry will ever return to the old status of pay. The only substitute will be greater production from machinery and equipment. It is from these sources that economies and profits must come. Production can no longer be the result of human energy or brute manual labor if a machine or a mechanical process can be substituted. This is a philosophy of production that all industry, including textiles, must accept; this principle has been demonstrated as sound in many industries, and textiles will find it equally applicable to its operation.

A really modern plant must be designed, laid out and equipped to utilize to the maximum the intelligence and genius of its workers. The operative should be essentially the active brains of production, and equipment the brawn and muscle. The human element in production should supply only intelligent supervision and perform only the activities of directing, adjusting and maintaining.

Future Factors in Design

The following are some factors that require consideration in the design of textile plants in the future; greater utilization of automatic equipment and the mechanization of processes and operations to eliminate labor; further improvements in the preparation, blending and cleaning of the stock (this operation is susceptible to developments and improvements which may require new or redesigned equipment); increasing the size of packages in all operations; longer draft processes; more effective cleaning operations for the complete removal of lint, fly and dust; controlled temperature, as well as controlled humidity; provisions for maintaining excess atmosphere pressures in production processes; better air conditioning, air cleaning and ventilating facilities, required by the trend to totally enclosed buildings; renovation of old structures and in the design of new plants; provisions for the elimination of columns, windows, openings and leaks; provision for eliminating vibration and noise; provisions for wider and roomier operating alleys and working space; definite segregation of operation into units to permit closer operating labor and management controls; fuller use of plant facilities through longer operating schedules and a much shorter life assigned to machinery and plant facilities (accelerated depreciation and technical improvements in equipment now in development stages will make this necessary); adequate provisions and facilities for the health, safety, comfort and convenience of employees (this will be a fundamental requirement in the future); control, testing and research laboratories with equipment for routine, experimental and development work.

Improvements Are Coming

The textile industry is a great industry that uses today substantially the original methods and processes that came down through the ages of hand production. Practically every process in cotton manufacturing is based on hand developed methods from spinning to weaving. True, power and machines have been developed to perform mechanically hand operations, but in principle there have been few fundamental changes.

Today all the energy, brains and engineering genius of the world are concentrated on instruments of war. Research and mechanical developments have been concentrated over a few short years that ordinarily would have taken decades. When the pressure of war is removed, the results of this research and the mechanical advances that have been made will immediately be turned to the redesign of many processes and operations that have long been considered standard and beyond further improvement.

Many operations now manually performed and many processes that depend on human intelligence and direction will be automatically performed with greater precision and efficiency the application of electronic and other devices that are now perfected. Equipment— *(Continued on Page 64)*

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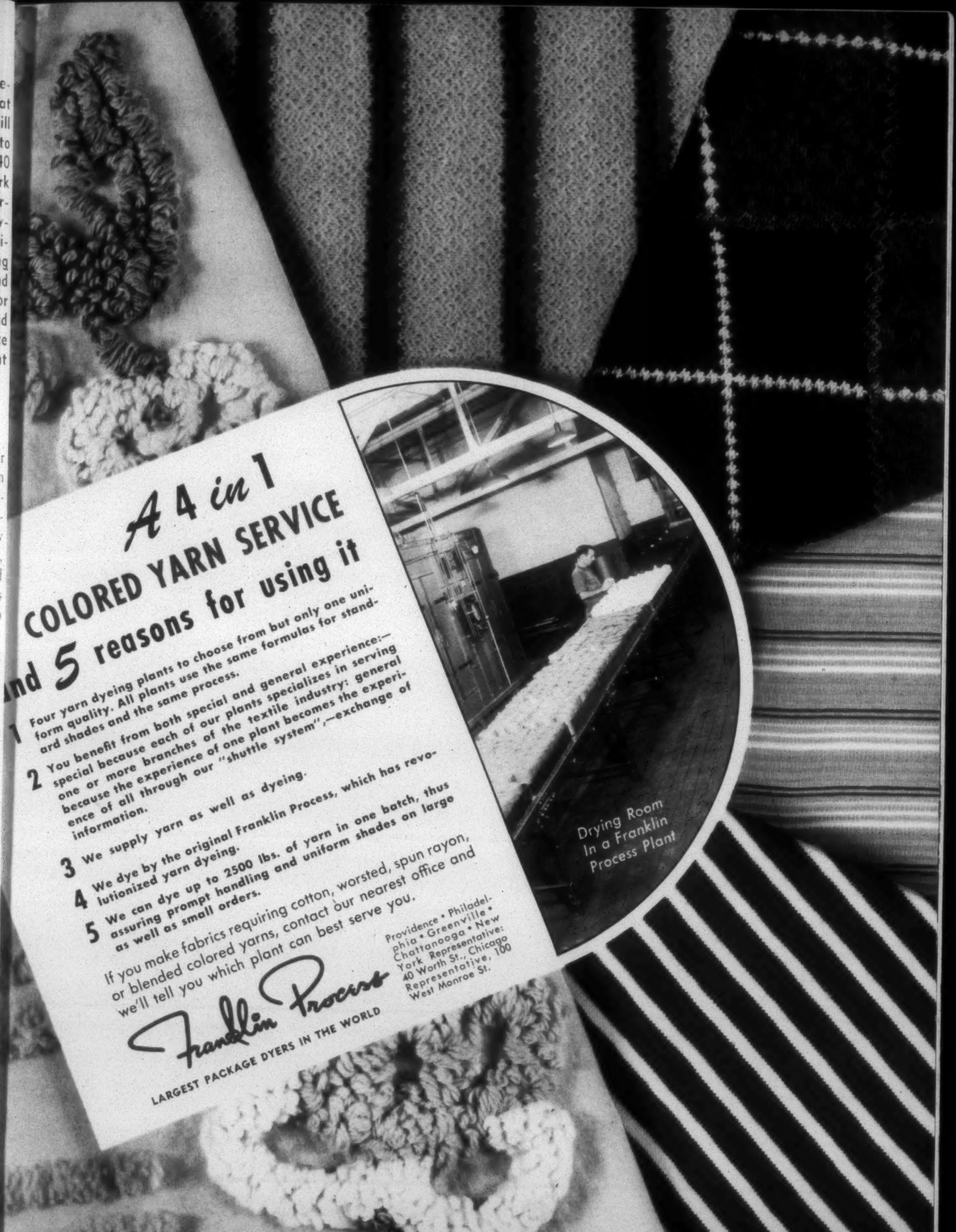

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S.T.A. DISCUSSION

Running Rayon in the Cotton Mill

THE Eastern Carolina division of the Southern Textile Association followed the lead of other S. T. A. groups by devoting its fall meeting to a discussion of rayon processing. Virgil E. McDowell, overseer of carding at Rosemary Mfg. Co., Roanoke Rapids, N. C., presided in his capacity as chairman of the division. The meeting, held in the Erwin Cotton Mills Co. auditorium at Durham, N. C., Nov. 4, was addressed by Heath O. Kennette of Wilmington, Del., rayon technician for E. I. du Pont de Nemours & Co., Inc. Mr. Kennette's talk is presented below, and following it is the discussion which developed.

MR. KENNETTE: Synthetic staple fibers are generally delivered in bales similar in size and weight to a bale of cotton. The three major types of synthetic fibers available on the American market are the viscose process, acetate process and the protein type. Approximately 71 per cent of the synthetic staple fiber produced in this country is made by the viscose process.

A wide range of deniers and lengths is available in the viscose process type of staple. The denier ranges from one to 20 per filament in either bright or dull luster. Any length staple desired, depending upon the mill's equipment and the fabrics to be produced, can be obtained. The bulk of the staple used on the cotton system is 1½ inches in length with increasing demands for 2½ to three-inch lengths. The use of longer staple results in increased yarn strength and more worsted like fabrics. The viscose process staple is available in regular and medium high tenacity. At present the medium high tenacity staple will yield yarn and fabric strengths 15 to 20 per cent greater than that obtained with regular staple.

The degree of crimp in the viscose type of staple can be controlled. It ranges from regular staple with a low degree of crimp up to Fiber "D" with a high degree. Fiber "D" is an inherently crimpy fiber produced by DuPont primarily for the carpet trade in coarse deniers such as 15 and 20 denier per filament. However, the post-war period may develop many interesting blends with Fiber "D" on the cotton system where a crisp fabric is desired.

Because rayon staple has the ability to blend readily with all known textile fibers it offers almost unlimited possibilities in fabric development. The development of spun rayon fabrics has been largely one of creating new and interesting blended yarns rather than novelty fabric constructions. While all types of fabric constructions and weave formations are used, the character of most spun rayon fabrics is controlled by the fiber blend and yarn construction. The hand, strength, appearance, character and utility of the spun rayon fabrics can be controlled over a wide field by employing various deniers and lengths of the different types of synthetic fibers in connection with the natural fibers such as wool, silk, linen and cotton.

In general if a crisp resilient fabric is desired the coarser deniers such as three and 5.5 denier would be blended with wool in a yarn construction using relatively high twist. Dull staple is usually employed in blends with wool. If a medium soft fabric is desired 1.5 denier staple with a relatively low yarn twist will generally be employed. If strength or fine yarns are of paramount importance the finer deniers such as one or 1.25 denier of the medium high tenacity staples would be used. It is often necessary to inject a small percentage of the fine deniers in the blends employing coarse deniers in order to obtain satisfactory spinning and processing properties.

Opening—Blending—Tinting

The mills have done an excellent job in developing the technique of blending and manipulating the various types of synthetic fibers on existing equipment to bring out the specific characteristics desired in certain fabrics. Because of the great variation in cotton mill machinery in the trade, almost every mill has developed its own blending technique designed to fit its particular equipment and needs. The type of fabric being produced governs to a large extent the method of blending. In some cases, such as mock twist yarns, a blend of rovings at the spinning frame produces the desired effect. In other cases a percentage blend with picker laps will be entirely adequate.

Mills employing two or three processes of picking, two drawing operations, three roving operations, and double roving in spinning, obtain sufficient doublings to assure a reasonably satisfactory result with a minimum of fiber blending prior to picking. However, mills employing one-process picking, one-process drawing and one-process long draft roving must obtain adequate blending of the fibers prior to picking if satisfactory results are to be assured. The majority of fabrics produced from blends of natural and synthetic fibers require maximum uniformity of fiber distribution in order to bring out the desired effect in the fabric. The safest method of blending natural and synthetic fibers that we know of is based on the sandwich method of blending as practiced in the woolen trade.

The sandwich method of blending requires considerable space and equipment to do a satisfactory job. A dump type recording scale is desirable since it provides a permanent record of each component of the sandwich blend. The blending bins should be constructed of fire resisting material with a screened air vent in the top. The inner surfaces of the bins should be smooth and highly polished for ease of cleaning. In making up the sandwich blend it is advisable to work from five to ten bales of each fiber to be blended, in order to minimize possible differences from bale to bale.

In one method of blending, which appeals to us, the sandwich blend is made on a recording scale in 50 to 100-

pound batches in which each component is carefully weighed and recorded. The sandwich is then dumped on the apron of a bale breaker. The material passes through the bale breaker and is blown to the blending bins. In this particular case a large sandwich mix is laid down mechanically. The material is then removed from the blending pin by taking a full bite from the top to the bottom of the pile. The blended material is then run through the second bale breaker and again laid down in a large mix by mechanical means to assure a more uniform blend. The operators work from one end of the mix, taking a full bite from top to bottom of the sandwich, and feed it into the hopper of the picker.

Because of the large number of blends run in the average mill it is generally necessary to tint the blended stock for identification purposes. Various methods of tinting are available such as the drip method, the wipe method in the beater cage, or the spray method. The spray method with the atomizer head mounted over the apron of the bale breaker or in the discharge end of the hopper opener is the one most generally used. The tinted staple should be allowed to dry and condition for 12 to 24 hours before processing on the picker. Excessive quantities of tint, or wet tinted areas result in excessive fiber breakage, neps, loading of the card, roller wraps and poor drafting.

Pickers

Since rayon staple is supplied in a well opened state free of foreign matter, no cleaning is required. The main object of the picker in the processing of rayon staple is to prepare the fiber for carding by thoroughly opening the staple and producing a uniform lap. We cannot over-emphasize the importance of lap formation. Every effort should be made to produce a lap with the greatest possible degree of uniformity throughout its entire length and width.

Many millions of pounds of rayon staple in 100 per cent form and in blends with other fibers have been processed successfully on both the conventional cotton pickers and on the one-process picker without major changes. All types of beaters have been tried under various conditions. The Kirschner type beater is the one in most general use. Care and judgment must be used in setting the Kirschner beater to the feed rolls. Beater settings vary considerably from mill to mill. If the beater is set too close excessive neps and fiber breakage will be encountered. When picking from evener pedals it is generally necessary to use 1/8 to $\frac{3}{16}$-inch wider setting than when picking from feed rolls. In most cases a beater to evener pedal setting of 1/2-inch will give satisfactory results. Small feed rolls often give trouble with roller wraps, particularly when processing tinted stock containing small wet areas or high concentration of tint. The speed of the beater is governed to a large extent by local conditions but generally is in the range of 800 to 1,000 r.p.m. The fan speed should be sufficient to pull the stock to the top screen and usually ranges from 1,200 to 1,600 r.p.m.

In the early days of rayon staple much trouble was experienced with static and lap splitting during picking and carding. It is now possible to eliminate static and splitting laps with humidification and lap split preventor fingers. A set of lap split preventor fingers should be provided for both the top and bottom surfaces of the lap. With the fingers set $\frac{1}{16}$ to 1/8-inch from the bite of the calender rolls virtually all lap splitting can be eliminated. Experience has shown that the entire mill should be equipped with adequate humidification equipment capable of maintaining a relative humidity range of 55 to 65 per cent.

The two-beater one-process picker is generally preferred for 100 per cent rayon staple because of minimum handling. When running blends many mills prefer the conventional breaker and finisher picker, equipped with Kirschner beaters, because of the added blending obtained with four laps on the finisher. Some mills use one-process pickers on both 100 per cent and blends and rely on adequate blending prior to picking. Other mills runs all stock through the one-process picker and then run the blends through the finisher picker for added blending. Reducing the weight on the lap rack and use of a tapered lap pin materially improves the ease of doffing the laps.

Carding

The bulk of rayon staple produced in this country has been processed on the standard flat top cotton card. So long as the card is sharp and is in good condition very little trouble will be encountered in changing over to rayon staple. Normal card settings, screens and clothing used on a good grade of cotton usually work equally well on 1 1/2-inch rayon staple. Because of the great number and types of blends encountered in rayon staple work it is impossible to set up hard and fast rules to cover all conditions. However, a good card grinder will generally be able to adjust the cotton card and to meet the condition.

The main problems which have been encountered with rayon staple during carding have been lap splitting, loading of the lickerin and cylinder, web sagging or breaking and excessive neps. All of these problems have been materially influenced by the lack of adequate humidification, dull cards and wet or excessively tinted areas in the staple. The splitting laps can be eliminated at the picker by the proper use of lap split preventor fingers. Loading of the lickerin and cylinder caused by wet or excessively tinted staple can be corrected by adequate distribution of the tint during blending and by allowing sufficient time for drying prior to picking and carding. Loading of the lickerin can generally be minimized by reducing the speed from 425 to a range of 200 to 300 r.p.m. Web sagging or breaking can usually be eliminated by adjusting the comb and tension gear. Dull cards and damaged clothing result in excessive neps and poor carding. When the card is sharp the neps and top strips can be controlled by the front plate setting.

The fine deniers such as one, 1.25 and 1.5 are generally used in 1 1/2-inch lengths because of the difficulty in eliminating neps in the longer lengths. Large quantities of three and 5.5 denier 2 1/2-inch staple have been processed satisfactorily on the cotton card. The coarse deniers can be carded at a higher rate of production than the fine deniers. The rate of carding ranges all the way from six to 16 pounds per hour depending on the denier size, staple length, fiber blend, yarn size and type of fabric to be produced.

A number of small installations of the modified roller top card are in use on blends of coarse deniers. While the roller top card has many possibilities it has not been in use in sufficient volume or length of time to have definitely proven its value in connection with the cotton system.

Few major problems have been encountered at the drawing frames. However, many of the problems in subsequent

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The Mark of Technical Excellence in Synthetic Rubber operations have been traced to excessive drawing tensions, improper roller settings and poor mechanical condition of the drawing frames. The general tendency has been to set the rollers too close resulting in non-uniform sliver. Roller settings of ¼, ⅜ and ½-inch over the staple length from front to back, respectively, work satisfactorily on many blends. Judgment should be used in selecting the trumpet size so as to avoid stretching or calendering on the stock. The speeds, drafts and production normal to long staple cotton are generally used on rayon staple.

The cushioned type top rollers appear to give superior results to metallic top rollers. When using long length staple large diameter rollers (1½-inch) are preferred because of less roller wraps and better running. Most mills prefer two processes of four roller drawings with wide roller stands over the one-process five roller drawing frame. While leather top rollers appear to give better results a marked trend ttoward the synthetic roller has been noted because of the saving to be made in the roller covering maintenance.

Roving

Millions of pounds of rayon staple in 100 per cent form and in blends with other fibers have been used successfully on both the conventional three processes of roving and on the one-process long draft roving equipment. The majority of the mills starting with 1.5 denier 1½-inch length staple in the early 30's were accustomed to processing short cotton on three processes of roving. These mills began by using similar roller settings and twist factors employed on short cotton. Under these conditions they experienced low yarn breaking strength poor weaving results and high fabric shrinkage. The mills gradually found that as they opened up the roller settings at the drawing and roving frames and reduced the twist in the roving that the yarns became more uniform and stronger. These yarns made under more favorable conditions showed a marked improvement in weaving performance. Some of the mills still have a tendency toward excessive twist, particularly when old equipment is used.

A few years ago some of the mills installed long draft roving frames designed to handle 1½ to two-inch staple. The results from these frames were so encouraging that the machinery manufacturers then built long draft roving frames, with large diameter front rollers, designed to handle from 1½ up to three-inch staple. A number of small installations of these frames were made prior to the war and the results so far have been very encouraging. Care and judgment must be used in selecting the draft, roller settings, twist, lay, tension and spindle speed to suit the fiber blend and hank roving to be produced. While leather top rollers generally give better results a marked trend toward synthetic rollers has been noted because of the saving to be made in roller covering maintenance.

Spinning

Because the back rollers on the conventional spinning frames are non-adjustable and are set at less than the normal fiber length of the rayon staple used, the floating middle top roller has become standard practice on this type of spinning frame. Most of the problems at the spinning frame with rayon staple can be traced to processing troubles encountered earlier in the operations. Drafts, speeds and productions normal to cotton are generally used on rayon staple. However, since rayon staple generally yields its maximum strength with lower twist factors (2.75 to 3.25) than cotton the spindle speed is usually reduced in order to prevent excessive front roller speeds. In some cases the increased front roller speeds can be used with resultant increase in production. The conventional spinning frame will handle staple lengths up to 2½ inches. While leather top rollers generally give better results, particularly on fine yarns, a marked trend toward synthetic rollers has been noted because of the saving to be made in roller covering maintenance. Plush covered scavenger rolls have been found to be much easier for the spinner to clean than scavenger rolls.

Large quantities of 1½-inch rayon staple in 100 per cent form and in blends with other fibers have been processed satisfactorily on the standard long draft cotton spinning frames. Because of the better fiber control obtained during drafting on the long draft frame the resultant yarns are generally more uniform and approximately ten per cent stronger than similar yarns made from the same roving on the conventional spinning frames. However, the standard long draft cotton spinning frame is not as flexible as the old conventional spinning frame and requires considerable rebuilding to handle up to two-inch staple lengths. All the new machinery designed especially to handle rayon staple from 1½ up to three inches in length either in 100 per cent form or in blends with other fibers, employ the long draft principle in some form. A number of small installations of these frames have been in use for several years and the results have been very satisfactory.

Most of the problems encountered with spun rayon yarns during spooling, twisting and warping are related to the quality of the yarn as supplied by the spinner. If the yarn is of good quality all types of spooling, twisting and warping normally used on cotton can be adjusted to run spun rayon yarns satisfactorily. In the case of wet twisting, since rayon staple wets out more completely than cotton, some provision for drying must be made prior to further processing.

Slashing

All types of slashers are used in the sizing of spun rayon yarns. Many mills use regular cotton slashers because the equipment is available and because of the large volume of moisture to be dried. Some mills have purchased new seven-drum rayon slashers equipped to handle section beams and report very satisfactory results. Some mills use the old worsted type air drying slashers and report that this type of slashing gives a rounder, fuller yarn than when dried over drums. Most mills agree that the slashing stretch should be held down as low as possible and should not go much over 1½ inches. The general trend in the past few years has been toward a starch or gum base size because of its lower cost. Considerable work has been conducted by the mills, size vendors, machinery manufacturers and textile schools on the slashing of spun rayon yarns. Most of the size vendors have large research staffs and are able to render valuable service in problems of sizing and slashing.

Rayon staple, like continuous filament rayon yarn, is subject to variation in humidity and tension and for this reason the same precautions should be observed. More trouble is

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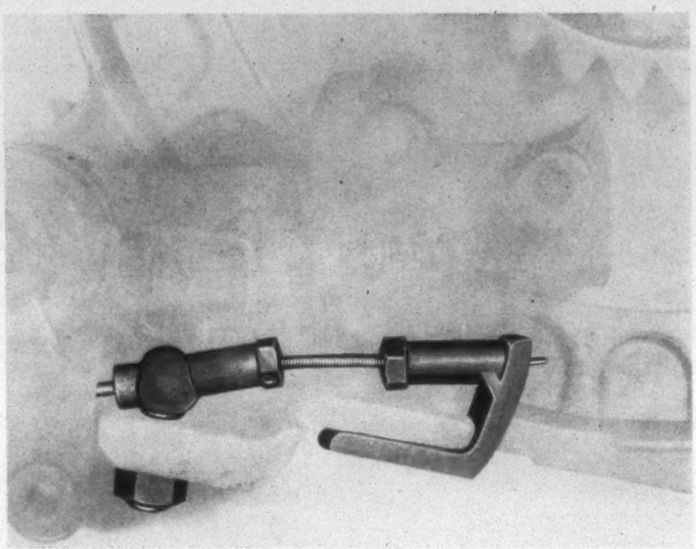

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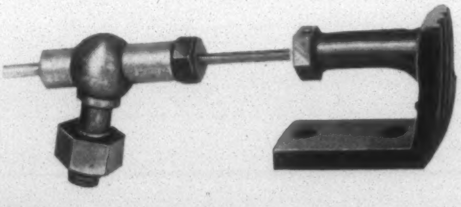

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experienced with shedding or fly from spun rayon than with continuous filament rayon. This is one of the problems which the size manufacturers are trying to overcome. If the yarn is properly constructed and a good slashing job is done no major problems should be experienced in the weaving of spun rayon provided, of course, that the loom is in good condition.

Chairman McDowell: Mr. Kennette has given you an outline about rayon. The first question on the list I sent out was as to the staple and denier you use. I think that information will probably be brought out as you ask your questions. The next question is: "When and where do you blend?" Who here is blending rayon with some other fiber?

Elliot B. Grover, head of yarn manufacturing department, school of textiles, North Carolina State College, Raleigh: I have had experience blending on the finisher picker, which is one of the methods of which Mr. Kennette spoke. We ran our stock through the breaker picker—first made laps of 100 per cent rayon on the breaker picker and then made our blend on the apron of the finisher picker.

Chairman: That is the old set-up, isn't it? It is not one-process?

Mr. Grover: That is a two-process job. There are two ways of doing it, either one-process or two-process. When you use only one process you do your blending by the sandwich method. In other words, you make your sandwich of a layer of wool and a layer of rayon, or layers of whatever fibers you are blending, and then take a bite of that sandwich.

Chairman: In other words, some of us have one-process pickers, and we cannot blend it on the pickers. That is the point I was trying to bring out. Has anyone any other method of blending? Let's hear from some of you who are blending on your drawing frames or speeders, or something like that. Is anyone using such a method? Mr. Henderson, don't you do a considerable amount of blending?

Raymond E. Henderson, superintendent of Dan River division, Riverside & Dan River Cotton Mills Co., Danville, Va.: We have a three-hopper unit back in our opening room where we do all our blending at Dan River. That stock goes, after thorough blending, to a one-process picker. This is a series of one hopper after another, where we put down our mix and blend in those hoppers. That is the method we are using now and is the best method we have found.

Chairman: You mean you make a sandwich mix first on the floor and feed it into the hoppers, those hoppers feed into the bale breaker, and then it comes into the picker room?

Mr. Henderson: Yes.

Chairman: I understand you have a very elaborate layout up there. Are you running much rayon now? Would you mind telling us about what percentage you are blending, and whether viscose or acetate?

Mr. Henderson: We have three problems in rayon at our Dan River division. All our weaving is simply a strand of rayon and a strand of cotton twisted together, to make sports wear for men. At the Riverside division we make men's suitings, and we use filament rayon, cotton and wool. At the other division we use cut rayon staple. At the Riverside division, where we run our suitings and where the biggest volume of rayon is used, the suitings are made out of two-ply yarns in which rayon and cotton are blended together. Then we have filament rayon as a decoration or stripe.

Mr. A.: I should like to ask if this rayon goes through all the cleaning machinery. Does it go from the hoppers through all the other machinery until it gets to the picker?

Mr. Henderson: No, we have an entirely separate unit for handling the rayon. We have two special pickers fed from this opening unit.

Mr. A.: So it by-passes the other and goes in there?

Mr. Henderson: Yes.

Chairman: Our discussion this morning was based on the point of using our present cotton machinery as much as possible. Before you bought this new machinery, Mr. Henderson, did you use your old machinery until you were able to make arrangements to get the new, and did you have any difficulty?

Mr. Henderson: Yes, and that is why we put in new machinery. We had difficulty with the old.

Chairman: Has anyone tried to run it on a vertical opener?

Mr. Henderson: I have seen that tried, but if you run the normal 1.5 denier you curl the stock pretty well. It works better on longer lengths.

Chairman: There are different types of vertical. Have you had the vertical opener of the jacket type?

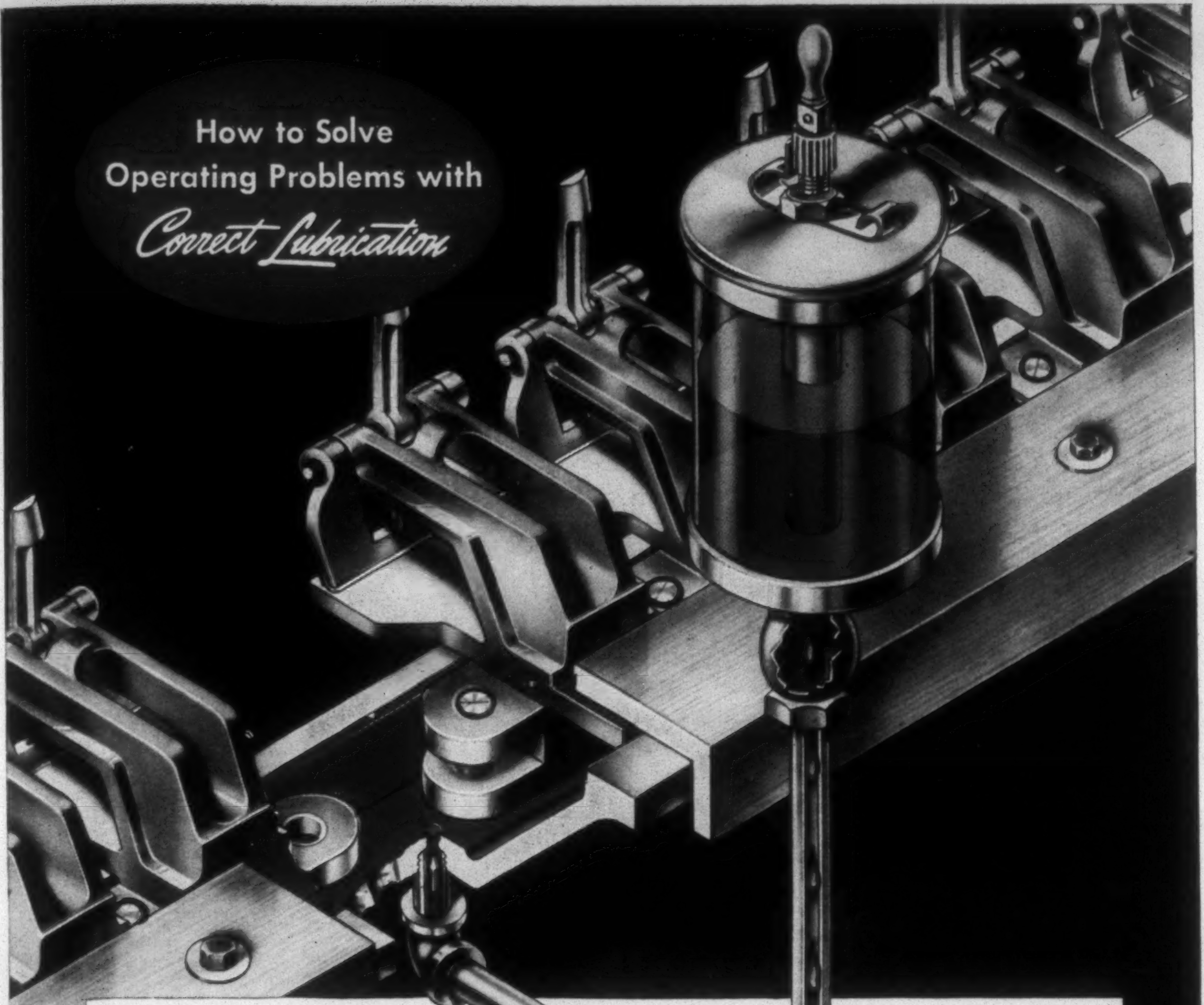
Mr. Henderson: You run into so much difficulty that I would not advise it.

G. H. Dunlap, director of research, North Carolina State College school of textiles, Raleigh: I should like to ask Mr. Kennette to give some of the advantages of the water tints as compared with oil tints.

Mr. Kennette: The reason for tinting is for identification. You have so many blends going through the mill that you tint it to identify it. Identification is the reason for tinting. As for the different types of tints, I do not think I am qualified to answer your question; but in general we feel that the water-soluble tints are the safest to deal with. They are generally cheaper and are a type that you can use in your own plant and use a little inhibitor of some type to save rust and generally know what you are doing.

Sydney Green, treasurer, Eno Cotton Mills, Hillsboro, N. C.: We use the soluble-base oil, I think it is—use a base oil that is soluble in water and use a color that we buy from our friend DuPont. We just put the powder in the mixture. So far we have had no complaints about the tints not being fugitive. We just tint our own oil and water. We do not have equipment such as that at Danville. We lay down a sandwich mix and then spray it with the tinted oil and water. We just spray it as we are putting it down for the picker and then let it age for 24 hours.

J. V. McCombs, Andrews Co., Asheboro, N. C.: As to blends, some mills have had quite a bit of experience in blending wool, cotton and rayon. I might say that we run some 25 or 30 different blends and different counts. We find in blending our wools and our cotton and our



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rayons the greatest trouble in those blends is the variance in the staples. For instance, wool shrinks more than cotton and shrinks more than rayon. A lot of mills making those blends are not careful about the wool. If you weigh it carefully and if you take your wool and have it cut even and have it, say, $\frac{1}{32}$-inch longer than the cotton and the rayon, I do not think you will have very much trouble. I have run for three and a half years on the old process—of course, with Kirschner beaters on the pickers, with some adjustments. We have been able to hold those blends to as low a variation as 0.5 per cent. In fact, it was 0.4999 per cent. We have held it between 0.505 and 0.51 for months and months. That was on counts running all the way from 18/s to 36/s. We have always made ours a floor blend and have never had any trouble at all in making those blends.

CHAIRMAN MCDOWELL: Thank you, Mr. McCombs. I think it is very important to bring out any point we can here about using our present machinery. I read about one mill that was running it through a vertical beater and did not experience any difficulty. They put a jacket around the vertical beater so it would not throw the fibers out and said they did not experience any difficulty, and it made it fit in and run better on the picker. On the picker the spike apron picks up rayon better than cotton, and it enables them to run more evenly. If there are no more questions on blending, let's discuss the picker a while. The first item on picking is the beater speed, first, second and third sections. Someone tell us what his beater speed is on cotton and whether he made any changes or not.

MR. GREEN: We cut our speeds down considerably. I don't know whether we cut them enopgh or not. I should like to have Mr. Kennette tell us what he means by saying 800 beater speed. Is that a two-blade beater or three-blade? Does the lap weigh ten ounces or 16 ounces? Does it make a four-pound lap in five minutes or in ten? I think the beater speeds are tied up, definitely, with the amount of rayon we are putting through there.

MR. KENNETTE: I cannot give you the beater speed. I have one specific case in which they are doing a very nice job, making a 52-yard lap. That is made in 6.3 minutes. The weight of the lap is 14.3 ounces per yard. The beater speed is 1,015. The beater is of the Kirschner type. The fan speed is 1,170. They prefer running ½-inch but made a little adjustment to set all pickers the same and made it ⅜-inch. That same speed and the same settings are run on the finisher. The grids have normal grid bars in there and are closed up so they will not get air through there. The ½-inch setting for the feed roll is positively safer.

MR. GREEN: That is two beaters?

MR. KENNETTE: Two beaters on the opener picker and one beater on the finisher picker. That particular set-up happens to be on 1.5 denier. I would say generally the weight of the yarn is between 12 and 15.5 ounces, using the one-process picker. Many mills have cut down the length of their laps and the average speed.

QUESTION: What about blade beaters?

MR. KENNETTE: Blade beaters seem to give more neps. Maybe they set them too close.

S. H. CRUMPLER, overseer carding, spinning and twisting, Roanoke Mills Co., Roanoke Rapids: On our opener pickers we feed rayon directly into the hopper by hand, since we had to use the equipment we had. The only thing we did to the picker was to slow the machine down. We by-pass the blade beater and use the other two Kirschner beaters. We were running them approximately 1,050 revolutions and slowed them down to 840. That is the two of them. The fan speed is probably about 1,125 all the way through. We slowed that down. We find it runs very satisfactorily and have not had any trouble with the laps splitting. We did run up against the problem of getting the pin out but after about a half-day we decided if we made a tapered pin it would probably come out easier. So we made a tapered pin and have not had any trouble since. I slowed down the fan speed in proportion to the rest of the machine. The whole machine, feed rolls and everything else, is slowed down in proportion to the speed of 840 on the beater.

CHAIRMAN MCDOWELL: I might say that you may not be running rayon right now but you may be running it before long, and if you want any of these questions answered this is the time now to ask some of these people about it. It looks as if we shall all be running some of it. Mr. Crumpler said he slowed his whole machine down, and naturally it took longer to make a lap. Mr. Kennette, what is your experience as to the length of time to make a lap?

MR. KENNETTE: I think around six minutes is the average now. It used to be around seven. How long did it take you, Mr. Crumpler?

MR. CRUMPLER: It takes about six minutes, and we were running a lap in 4¾ minutes.

MR. KENNETTE: What is the length of the lap?

MR. CRUMPLER: 61 yards.

CHAIRMAN: What is the total weight of the lap?

MR. CRUMPLER: 41 pounds.—*(Continued on Page 50)*

Operating Executives Meet November 25

A general meeting of the Textile Operating Executives of Georgia will be held Nov. 25 at Atlanta in the chemistry building on the Georgia School of Technology campus. This is the first actual gathering of the group in some time; until now business and proceedings of the organization have been carried on through war-necessitated "meetings-by-mail."

Instead of conducting a discussion of technical mill subjects, the executive committee has decided to devote the time to personnel and industrial relations topics. T. M. Forbes, executive vice-president of the Cotton Manufacturers Association of Georgia, will discuss policies of the War Labor Board; Thomas H. Quigley will speak on the responsibilities of supervisors in connection with the War Manpower Commission; and Grady Bradshaw will talk on the general subject of personnel relations from the supervisor's point of view. Another subject to be dealt with will be the operating executives' responsibility in re-employment of war veterans.

This Saturday morning meeting will begin at 9:30 and adjourn by noon.

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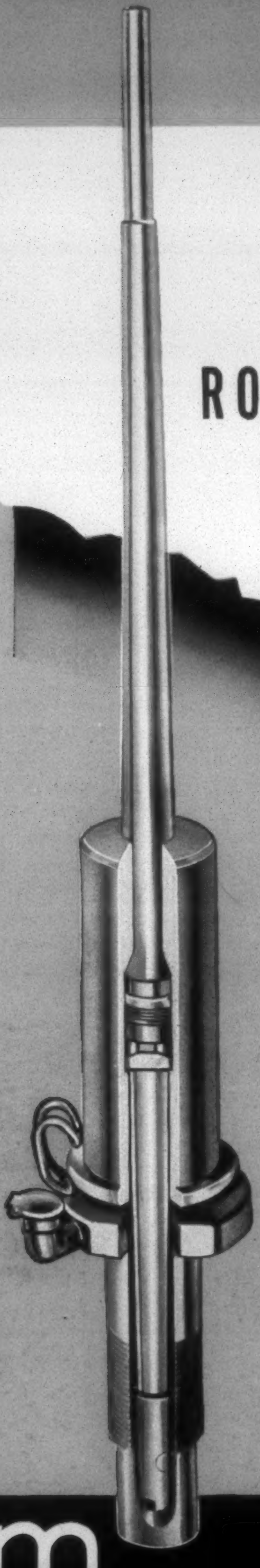

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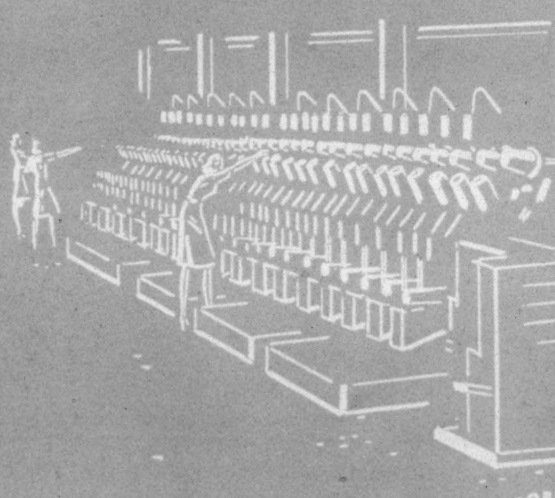

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North Carolina Mill Executives Consider State and General Industry Problems

STATE and industry-wide topics drew the attention of the North Carolina Cotton Manufacturers Association at its annual convention Nov. 10 in the Charlotte Hotel in Charlotte. J. A. Moore of Edenton Cotton Mills was named president of the association, succeeding R. A. Spaugh of Arista Mills Co., Winston-Salem. R. L. Harris of Roxboro Cotton Mills was elevated to the first vice-presidency, and R. Dave Hall of Stowe Thread Co., Belmont, was elected second vice-president.

Addresses were delivered by Mr. Spaugh, Dr. George D. Heaton and Dr. Claudius T. Murchison during the morning session. The next session, luncheon, featured an address by R. Gregg Cherry, governor-elect of North Carolina, and presentation of trophies in the annual state-wide safety contest.

New Directors

J. A. Long of Roxboro Cotton Mills was to fill Mr. Hall's unexpired term on the N.C.C.M.A. board of directors, and six mill executives were elected directors for three years: E. N. Brower of Rockfish Mills at Hope Mills; C. J. Beaver of China Grove Cotton Mills Co.; C. A. Harris of Marion Mfg. Co.; J. E. Millis of Highland Cotton Mills, Inc., at High Point; J. H. Lineberger of Belmont; and John C. Roberts of Textiles, Inc., at Gastonia. At a subsequent meeting of directors Hunter Marshall was re-elected secretary-treasurer, Carl R. Cunningham traffic manager and Richard E. Thigpen counselor.

Despite the continuing "strain of war," the textile industry "finds much that is encouraging in the outlook," because of the "wonderful progress" on all fronts "of our fighting forces," said Mr. Spaugh, opening his address. He said North Carolina cotton mills had sought to make a "maximum contribution" toward complete and quick victory, but, he added, conditions have "magnified" various problems, including those related to manpower, absenteeism, higher operating costs, price ceilings and various other phases of operations. He pointed out that the Office of Price Administration, through revisions, recently gave "greatly needed relief" in ceilings on yarn and some types of fabrics. He forecast further early relief through increases in ceilings on other fabrics.

Reporting that this association's membership was increased by 551,398 spindles to 93 per cent of the state's total, Mr. Spaugh emphasized that, through safety programs and co-operation with the North Carolina Industrial Council, large savings are accruing to members in lowered workmen's compensation insurance rates. The rate per $100 now is 58 cents, down from 72 cents, and a futher reduction of two cents is proposed for July 1, next year, he said, even though benefits last year were increased to $21 per week from $18. In contrast, he reported that these rates are being increased in "a neighboring state" to 92 cents from 72 cents.

Mr. Spaugh also spoke on problems of manpower and absenteeism and declared that the first task of the manufacturers was to increase production immediately so that the needs of the armed forces for textile equipment could be met. He suggested that the manufacturers return to their plants and make a complete recheck on every point where they may be slipping and do something about every item on the list. He also spoke of the importance of making plans for the servicemen who will have to be placed in industry when the war is over, of employers and employees determining to understand each other's problems and face the future together.

Dr. Claudius T. Murchison, president of the Cotton-Textile Institute, in a frank analysis of cotton and cotton textile domestic and foreign trade prospects, reported that the newly developed plan for subsidizing exports of cotton from government-held stocks likely will bring the necessity for strict Federal co-operation with the American textile industry. He spoke briefly on the raw cotton export subsidy legislation, which will soon go into effect. He said this substitute would attempt to compensate for the differential between the price of Brazilian and American cotton. The probability of reimportation of this American cotton in the

Officers of the North Carolina Cotton Manufacturers Association are shown in the picture above. Left to right, sitting, are R. A. Spaugh, Jr., of Winston-Salem, retiring president; Reginald L. Harris of Roxboro, first vice-president. Standing: J. A. Moore of Edenton, incoming president; Hunter Marshall of Charlotte, secretary-treasurer; and R. D. Hall of Belmont, second vice-president.

form of finished goods fabricated in Brazilian mills will present real difficulties, said Dr. Murchison. He believes an excise tax will be authorized by Congress in order that American mills and labor may not suffer from low-price competition.

Dr. Heaton, pastor of the Myers Park Baptist Church at Charlotte and widely known as an authority on industrial relations, addressed the convention on "Perspectives for Problems." He declared that one of the most pressing problems was that of labor relationship and said there would be a more serious crisis unless the causes of this problem could be overcome. He said he dared to suggest that one of the greatest contributions to American industry in the years to come would be the throwing overboard of the fetish of collective bargaining and the acceptance of a new principle, collective agreement, whereby people come together with the conception that they seek to agree on certain principles and policies.

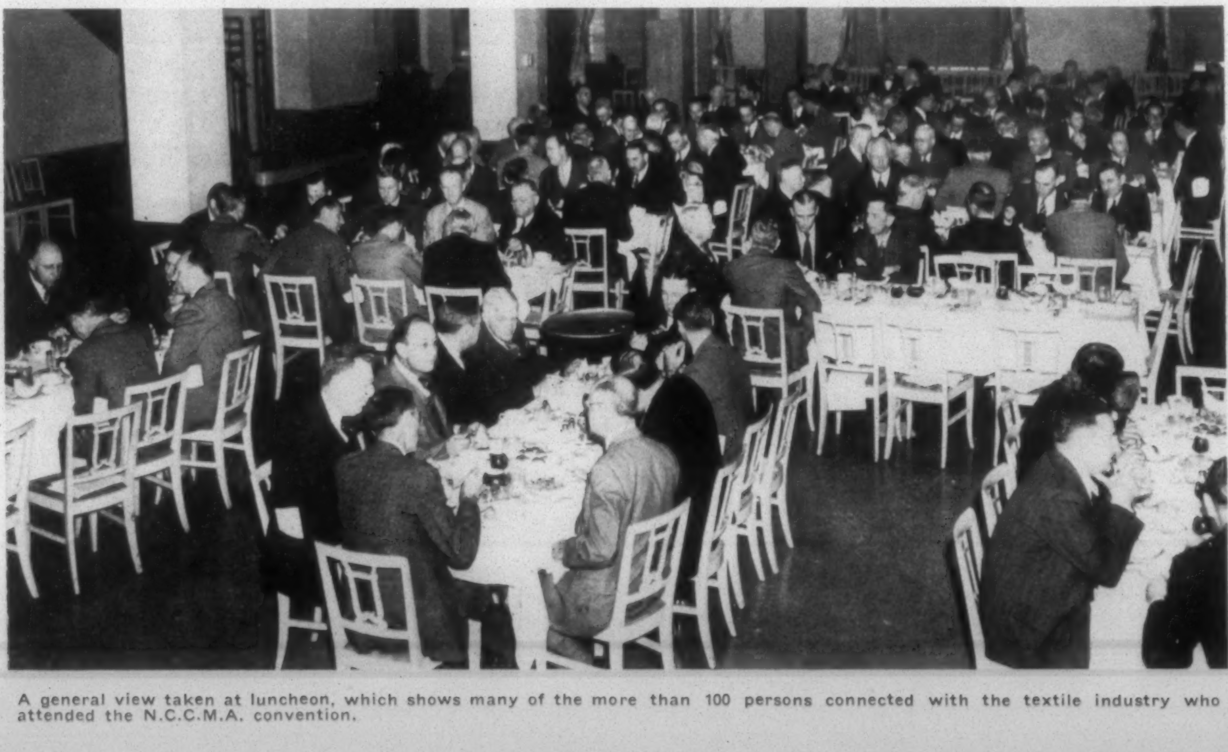
The picture above shows the various convention speakers and North Carolina Cotton Manufacturers Association officials seated at the main luncheon table.

Dr. Heaton said that all manufacturers should inaugurate sound programs of personnel administration with sufficient elasticity and authority granted the personnel directors that the recurring difficulties of human relationships could be adequately solved. The second problem he discussed was the placement of the employee. He stressed the importance of proper training and careful orientation and said it was wise management that strives to provide good adjustment immediately for the new employee. The speaker advised that manufacturers initiate employee-managed-and-owned commissary, entertainment and educational activities. He also spoke of the men placed in supervisory capacities and said there should be a thorough, well-planned program for training such persons. He added that much thought should be given to planning for the returning serviceman. In conclusion, Dr. Heaton stated that while there was a great place for cottons, there was no place for a manufacturing industry that did not constantly explore new methods and new procedures and make these explorations available to all.

Governor-elect Cherry, himself a cotton manufacturer, gave support to the study of the state tax system, saying that while he is not alarmed about the present tax structure from the standpoint of frightening industry, nevertheless North Carolina wanted to be in a position in the post-war period to attract within her borders all people and legitimate businesses which seek to promote jobs for her people, and that any taxation hindrances, when found, should be eliminated.

The association had previously adopted a resolution advocating that "a complete re-examination of the tax structure of North Carolina be made with a view of placing the state in a more advantageous position to compete with neighboring states in attracting new industry. And further, the association commends the movement now being made to have a study made of the state's tax system in the immediate future with the end in view of correcting and revising any present inequities in taxation that may be handicapping North Carolina's industrial development.

"I am persuaded, however, that taxation alone does not determine the location of industry," said Mr. Cherry, he said in answer to claims that the—*(Continued on Page 48)*



A general view taken at luncheon, which shows many of the more than 100 persons connected with the textile industry who attended the N.C.C.M.A. convention.

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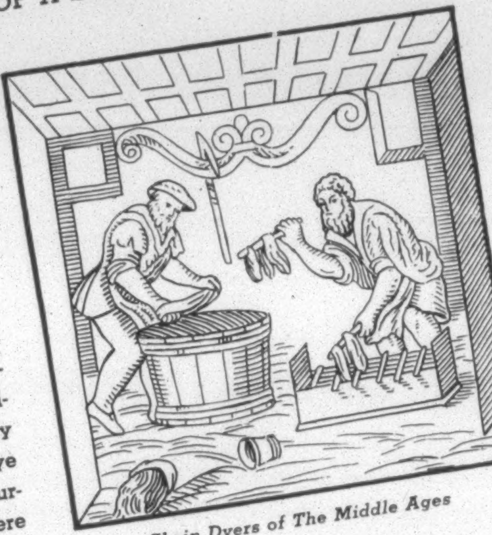

Skein Dyers of The Middle Ages

The first European treatise on dyes was published in Venice in 1429 under the title, "Mariegola del 'Arte de Tintori." This book, bringing together all that was known of dye processes at the time, had a profound effect in speeding the growth of the European textile industry. And the fall of Constantinople in 1452 brought to Italy many men well versed in the dye techniques of the near East. During the Renaissance there were over 200 dyeworks in Florence alone.

An author of the 16th century recognizes the importance of color in the scheme of life and tells us that each hue has its special use, for example—white for children, priests and young girls, green for jovial youths, bethrothed girls and newly wedded women, grey for mariners and laborers.

In the 17th century, tastes in color became so subtle that dyers tempted their clientele with names such as "Sad Friend", "Sick Spaniard", "Glad Widow" and others equally bizarre.

During the reign of Louis XIV in France, his minister Colbert established a distinction between dyers of fast colors and dyers of non-permanent colors. Colbert also appointed an official chemist to supervise the dye industry. Hellot, Macquer and Berthollet successively occupied this post.

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MILL NEWS

CONSTRUCTION, NEW EQUIPMENT, FINANCIAL REPORTS, CHARTERS, AWARDS, VILLAGE ACTIVITY, SALES AND PURCHASES

CHERRYVILLE, N. C.—Cherry Spinning Co., with authorized capital stock of $100,000, has been chartered to buy, sell and deal in cotton products. Stock to the amount of $2,000 has been subscribed by L. Edwin Rudisill, G. E. Rudisill and Carl S. Rudisill, all connected with textile plants at Cherryville.

ALBERTVILLE, ALA.—Purchase of the Saratoga Victory Mills, Inc., plants at Albertville and Guntersville has been confirmed by Leon Lowenstein, president of M. Lowenstein & Sons, Inc., New York. Mr. Lowenstein states that the purchase was necessitated by the shutting off of the supply of specialty fabrics in the gray goods market. Operations of the two plants will continue under the management of Francis Lynch, who has been made an officer and director. Mr. Lowenstein has been elected president of the company, which has been re-incorporated in the State of Alabama.

GREENVILLE, S. C.—To help minimize the loss of production time in South Carolina textile mills, Ray M. Spangler, division claim manager of American Mutual Liability Insurance Co. at Atlanta, assisted by Clifford A. Anderson, district claim manager at Greenville, is making arrangements with local doctors and managements of textile mills in and around Greenville to give a short industrial first aid course to plant personnel selected by their managements. The course takes two hours an evening once a week for five weeks. Arrangements for the course to be given have been made in Honea Path, Anderson and Clinton and a meeting is planned for Greenville Nov. 28 and later at several other textile centers. While the course was planned and prepared by the medical staff of American Mutual, it is conducted by local doctors selected as teachers. The class work is confined to the first aid problems frequently met in textile mills such as minor lacerations and infections, simplified aseptic techniques, removal of foreign bodies, recognition of accident severity which requires a doctor's attention. The establishment of adequate records and upkeep of the equipment of the first aid room are included in the course.

Recent War Production Awards

A third star for their respective Army-Navy "E" award pennants has been won by Pacolet Mfg. Co. at New Holland, Ga., and the Martinsville, Va., nylon plant of E. I. du Pont de Nemours & Co., Inc. Addition of this third white star indicates that the employees of both plants have effected meritorious war production for a continuous period of more than two years.

The woolen mill of the Marshall Field & Co. manufacturing division at Spray, N. C., and Columbia (S. C.) Mills Co. have won second stars for their "E" flags, and the Nashua Mfg. Co. plant at Cordova, Ala., has been awarded its first white star.

Whitin Machine Works, Whitinsville, Mass., has been awarded a third gold star for its "M" pennant because of the company's continued excellence in war production for the Maritime Commission.

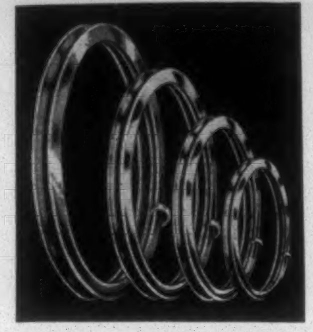
GAFFNEY, S. C.—A $50,000 corporation for the dyeing and printing of textiles, Cherokee Dyeing & Finishing Co., has been chartered. Officers are listed as W. C. Hamrick, president and treasurer; W. B. Fullerton, vice-president; and L. A. Hamrick, manager and vice-president. W. C. and L. A. Hamrick are officials of several textile plants already operating in Gaffney.

GLASGOW, VA.—The Charles P. Cochrane Co. and its manufacturing affiliate, the Blueridge Co., Inc., will be consolidated Jan. 1 into a new firm to be known as Lees-Cochrane Co., Inc. Joseph L. Eastwick is president of the new organization, which will co-ordinate the carpet sales and manufacturing activities formerly handled by Cochrane at Bridgeport, Pa., and at Glasgow. Peter B. Hagan, president of Charles P. Cochrane Co., will be chairman of the board of directors. In addition to Mr. Hagan and Mr. Eastwick, other officers of the Lees-Cochrane Co., Inc., will be: James W. Dunaway, vice-president; Clifford R. Wright, vice-president; A. T. Eastwick, treasurer; Russell C. Gebert, secretary; F. E. Malmberg, assistant secretary; Horace C. Jones, II, assistant treasurer, and Bruce W. Duddy, assistant treasurer.

FORK SHOALS, S. C.—George H. Anderson, for more than 17 years president, treasurer and general manager of Virginia Mfg. Co., has disposed of his interest and retired from the management of the company. James S. Briggs of Atlanta has been elected president and treasurer and J. M. Batson of Lavonia, Ga., general manager. No enlargement or expansion is contemplated and the new owners expect to conduct the business along the same general lines followed by Mr. Anderson in the past. Mr. Batson expects to reside in Greenville. Mr. Anderson will remain in Greenville, but has not announced his future plans.

The War Production Board this month revoked Conservation Order M-174 (elastic fabrics, knitted, woven or braided), which prohibited the purchase, delivery or use of elastic fabric six inches in width or less except as specifically authorized by the War Production Board or for sale or delivery to the Defense Supplies Corp. Order M-174 was issued Oct. 18, 1943.

This action was taken because stocks of elastic fabrics frozen under the order are no longer needed to meet military requirements, officials of WPB's textile, clothing and leather bureau said.



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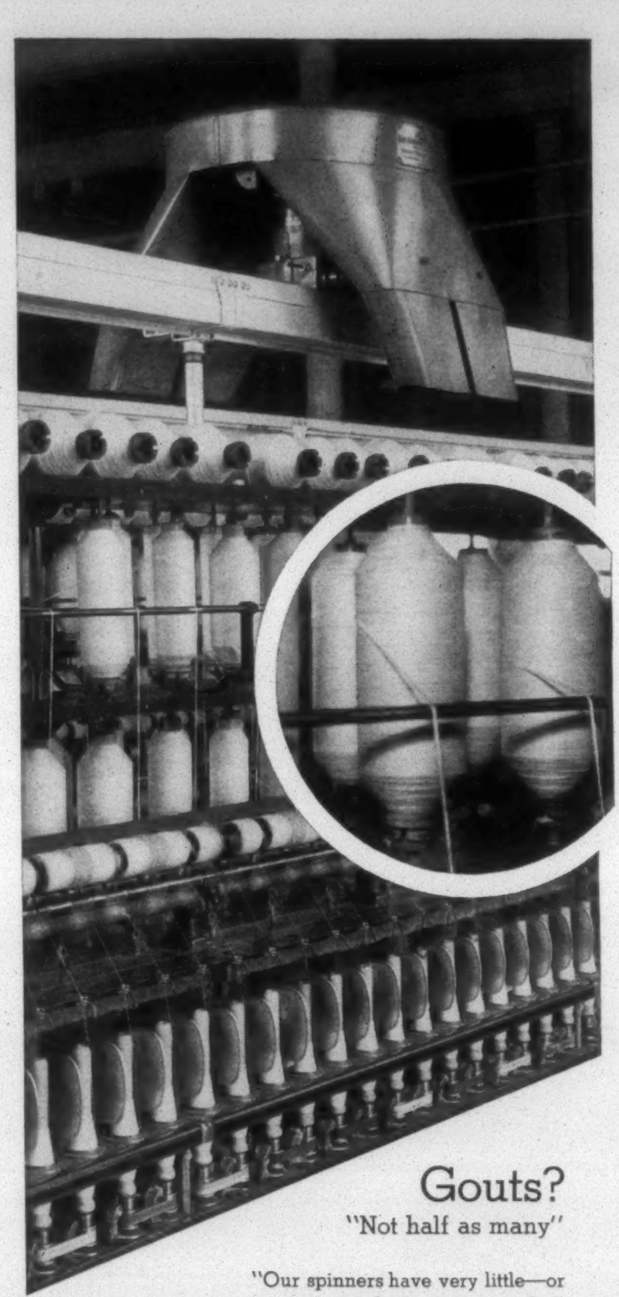

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Promotions, Resignations, Elections, Transfers, Appointments, Honors, Notes on Men in Uniform, Civic and Associational Activity.

PERSONAL NEWS

J. J. Norton, Jr., holds the post of assistant treasurer and general manager of Gaffney (S. C.) Mfg. Co. under the new managerial set-up at this plant.

A son, Tilden, Jr., was born last month to the T. M. Bridges of Belmont, N. C. Mr. Bridges is principal of the North Carolina Vocational Textile School.

Hoyt T. Hambright, formerly of Burlington Mills Corp., has become personnel director of Rex-Hanover Mills Co. at Gastonia, N. C., and Aberfoyle Mfg. Co. at Belmont, N. C. Before working at Burlington Mr. Hambright was associated with Chatham Mfg. Co. at Elkin, N. C.

A. C. Johnstone has resigned as superintendent of the Ranlo, N. C., plant of Textiles, Inc., to become associated with the yarn plant of P. H. Hanes Knitting Co. at Hanes, N. C.

E. Bowers Ayres, Jr., left, and P. Kay Schwartz, right below, were recently elected vice-presidents of Proctor & Schwartz, Inc., manufacturer of industrial drying equipment and textile machinery at Philadelphia. Mr. Ayres, who has been with the company since 1924, assumes the position of vice-president in charge of purchases. He has been a director since 1928. Mr. Schwartz is the son of Walter M. Schwartz, Sr., president of the firm, and has been associated with it since 1931. He has served as a director since 1939, and several years ago was a member of the dryer division's Southern sales staff, with headquarters at Charlotte. Walter S. Corson, above, the firm's recently elected treasurer, joined Proctor & Schwartz early this year after many years' experience in accounting. F. E. Schermerhorn, who has been secretary and treasurer of the company for a number of years, will continue as secretary.

Don M. Hawley has been made vice-president in charge of sales for Stein, Hall & Co., Inc. Robert M. Stein, secretary of the New York company, has been elected vice-president. L. F. Turnbull, H. R. Barnett, J. A. Lowander and H. M. Johnston, product managers, have been made assistant vice-presidents.

G. W. Herrick of Aberfoyle Mfg. Co. has been elected a director of the Philadelphia Textile Manufacturers Association.

Benjamin B. Peacock has been appointed Southern agent for Whtin Machine Works in charge of the Atlanta territory. Mr. Peacock, who will have headquarters at Atlanta, has wide and varied experience in the textile industry. He recently severed his connection as chief of the cotton yarn machinery section of the War Production Board. He is a graduate from Georgia Tech in textile engineering and has had previous connections with Celanese Corp. of America and the Foxboro Co. He was a member of the Whitin staff at Charlotte prior to joining WPB.

Lewis Price has been promoted to vice-president and general manager of the MMC division of Callaway Mills, LaGrange, Ga. He succeeds J. H. Daughdrill, who has resigned his position with the corporation. Seth A. T. Newsom, for several years superintendent of the Unity Spinning and Oakleaf plants in the USEO Division, has been transferred and promoted to assistant vice-president of the MMC Division, succeeding Mr. Price. B. P. Albright has been promoted from superintendent of the Elm City plant to superintendent of the Unity Spinning and Oakleaf plants, succeeding Mr. Newsom. John Driver has been promoted from overseer to assistant superintendent of the Unity Spinning plant. Jesse Maddox is assistant superintendent of the Oakleaf plant. E. H. Hines, Jr., who has been assistant superintendent of the Hillside plant in the HDV Division of the company, has been transferred to the USEO Division and promoted to superintendent of the Elm City plant, succeeding Mr. Albright. H. T. Mahaffey has been promoted from overseer of weaving to assistant superintendent at the Elm City plant. T. M. Hampton, formerly personnel director of the HDV Division, has been promoted to assistant superintendent, Hillside plant, succeeding Mr. Hines. W. C. Carriker, Jr., formerly job standards engineer of the HDV Division, has been promoted to personnel director of the same division, succeeding Mr. Hampton.

L. F. Warren has been appointed New England sales representative for Textiles, Inc., of Gastonia, N. C.

W. A. Smith has been appointed manager of suspension sales for the industrial products sales division of B. F. Goodrich Co. The department handles all suspension products, including the company's line of Vibro Insulators, devices of rubber and metal used for isolating vibration and noise. Mr. Smith has been with the company since 1924.

William L. Paulhamous, left, associated with Atwood Machine Co. of Stonington, Conn., for the past 14 years, has resumed his duties with the firm's sales department after completing the job of reorganizing Atwood's personnel department. He will be in charge of sales in New England and New York, with headquarters at Stonington. R. F. Lenihan of the company's export sales department is now on an extensive trip throughout South America, inspecting the textile industry there.

Ira Pitts, formerly of Monarch Mills, is now superintendent at Hartsville (S. C.) Cotton Mill. Chris Suber, Jr., formerly superintendent of the Toxaway plant of Gossett Mills at Anderson, S. C., has become assistant superintendent of the Monarch Mills Lockhart plant.

David Lindsay, general manager of Johnston Mfg. Co. at Charlotte, has been elected vice-president of the Carolinas-Virginia Purchasing Association. H. E. Kiefer, Jr., buyer for Ware Shoals (S. C.) Mfg. Co., has been named secretary-treasurer of the organization.

R. O. Tuten will become office manager for Union Bleachery at Greenville, S. C., Jan. 1. He will succeed A. D. Robinson.

Three men prominent in the textile industry, as honorary members of the American Association of Textile Technologists, will be presented plaques by that organization at a meeting Dec. 6. They are Sir Samuel Salvage, former board chairman of American Viscose Corp., Dr. Harold DeWitt Smith, treasurer of A. M. Tenney Associates, Inc., and Ernest Geier, president of Duplan Corp.

—(*Continued on Page* 47)

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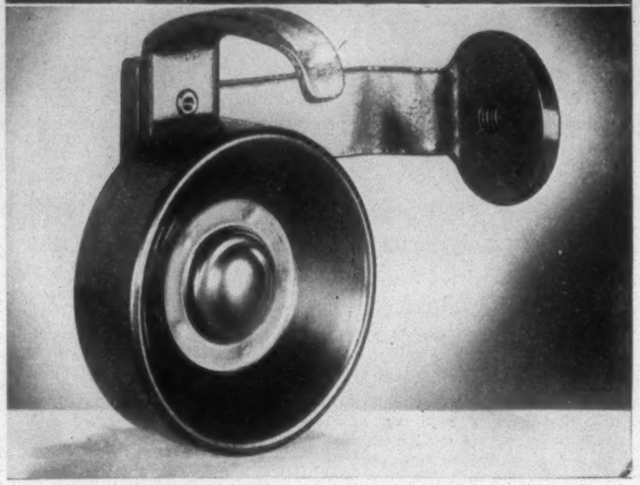

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Contributions on subjects pertaining to textile manufacturing and distribution are requested. Contributed articles do not necessarily reflect the opinion of the publishers. Items pertaining to new mills, extensions, etc., are solicited.

About "Thoughts on a New World"

The *Charlotte Observer* had a recent editorial commending W. M. McLaurine for the ideas expressed in "Thoughts on a New World," the series of five articles published in TEXTILE BULLETIN. The *Observer* editor praised Mr. McLaurine's series, but neglected to state where the articles originated.

We are not seriously complaining about this failure to receive due credit, but the occasion does present an opportunity to say something about the work accomplished by "Mr. Mac" as secretary-treasurer of the American Cotton Manufacturers Association for a number of years.

Mr. McLaurine has been a good "front man" for the textile industry. His talks and articles expressing, as they do, reasonable and sound ideas relative to employee-employer relations, have had a very wholesome influence.

Mr. McLaurine has defended the industry against many attacks and while doing so has caused the attackers and the public to realize that many of the charges are unjustified.

Through it all, though, W. M. McLaurine has stood out in front, taking the criticism and qualifying the textile industry's position. He writes articles, such as those which appeared in TEXTILE BULLETIN, and they are seen and read by employees in the industry. From his writings and speeches persons outside of management have gotten logical and convincing explanations of why management does certain things.

Interested in "The Big Steal"

A textile cost accountant has written us relative to the editorial, "The Big Steal," which appeared in our issue of Nov. 1st. His letter, slightly edited, appears below.

"I know of a man who is reputedly 'in the know' as to procuring large lots of government-released commodities, and he is making a killing. He recently bought a whole carload of uniform caps, but didn't know how he was going to get his profit out of them. Finally, he weighed the brass buttons from 50 caps and found he could make a fancy profit on his purchase by selling just the brass as scrap. He has not decided what he will do with the buttonless caps. He has also bought a carload of belt webbing, but I have not heard yet how he will get from under this. These things must be sold to him for practically nothing, or he would not buy them without even knowing how to dispose of them. I understand he is making 1,000 per cent profit on canned apples. I cannot get affidavits, but I know the man personally, and I know his next door neighbor who is helping him market some of the things he is buying. The facts are reliable. This man got his experience with contracts to remove garbage from military posts; he reportedly made a mint raising hogs.

"Why can't some agitation be started through Congress to publish facts about these transactions—quantity, description, to whom sold and at what price? The government is in the merchandising business when disposing of surpluses, and as you say, the taxpayer takes the licking. Why can't the government put out catalogs, just like a mail-order house, that can be seen at any post office, or maybe procured for a small fee? It could be loose-leaf to take care of subsequent release of materials. The catalog would show specifications, unit cost to the government, and sale price to anyone in the country. A different discount could be put on various articles, or a blanket discount on all articles, and anybody could buy any quantity desired. It looks like something along this line would protect the taxpayer, bring the government a larger return, as well as prevent the disruption of post-war markets. If the government had four million yards of duck for sale why shouldn't all people know it and have a chance to buy it? It would kill the market on that item until disposed of, but it is better that everyone know it than to kill the market without publicity. The same could be done with all items for surplus disposal."

We heartily approve the suggestion that information about all sales be published so that taxpayers may know the ridiculous prices at which articles are now being sold in large volume.

There should also be a severe penalty for selling goods without wide advertising. The impression prevails, although we do not know it to be true, that some men get more or less exclusive information about articles which are to be sold and that their friends in government service see that very few people are aware of pending sales.

When there are few bidders it is easy to obtain goods at low prices. We do know that some time ago a list of the kinds and types of articles to be sold was distributed. Those who received the list were asked to check the items in which they might be interested and to indicate that they wished notification of the sale. We checked a number of items, but up to now have no record of having received notice of articles to be sold.

We also know that goods which cost many millions of dollars have been sold without many people knowing that they were to be sold. There should be no inside information for a favored few, and full publicity should be given to all sales made.

Forget the Election

In common with a majority of those who operate textile mills we desired the defeat of Franklin D. Roosevelt and the New Deal and the result of the election was disappointing.

Those who believe in the American system of government must gracefully accept the result as the will of the people. This is no time to gripe or to be a bad loser.

We have wars to win against Germany and Japan and it is the duty of every citizen to get behind the war effort and do his or her part.

The men, who are in the fox holes and mud, cast their ballots and those who voted for Dewey must continue to suffer and perhaps to die for the right to vote as they choose.

We, at home, have our obligations toward winning these wars and must not sulk or fail to do our full part.

One thing which we have to be thankful for is that Henry Wallace will not be vice-president and be in line for president in case of the death of President Roosevelt.

Senator Truman may not be our ideal of the man for president, but in spite of campaign propaganda, we believe that if he should become president, this country will be fairly well satisfied with his administration. We are slightly acquainted with Mr. Truman and believe that if he should become president he will endeavor to serve his country well.

In spite of campaign charges both the Democrats and Republicans are interested in establishing a lasting peace and both favor some kind of an armed force which can suppress any effort to move toward another world war.

Textile Foundation Progress

W. J. Carter of Greensboro, president of the North Carolina Textile Foundation, states that steady progress is being made toward the goal of $700,000. Up to Nov. 14th, $595,737 had been received and had been invested in bonds or banked. It is probable that the $600,000-mark will have been passed by the time this issue is mailed.

Although the group of mills represented by Mr. Carter had originally given $25,000, another $12,500 has been recently added by them, raising their total to $37,500.

Mills have been asked to give in proportion to their size. Yarn mills and mills with both spindles and looms are asked to give ten cents per spindle, while mills with looms only are asked to donate $8 per loom. Full-fashioned hosiery mills are asked to give $25 per machine while seamless mills are asked for $2 per machine.

While donations can be considered as deductions upon Federal and state income tax returns, we believe that in the long run any donation will prove to be an excellent investment.

The textile industry now has a demand for its output far in excess of its capacity. Many persons seem unable to remember the years prior to this war when it was often impossible to find a market for all the goods which could be produced. In postwar years operating conditions may be very difficult, and the industry should have available to it the services of well-trained young men.

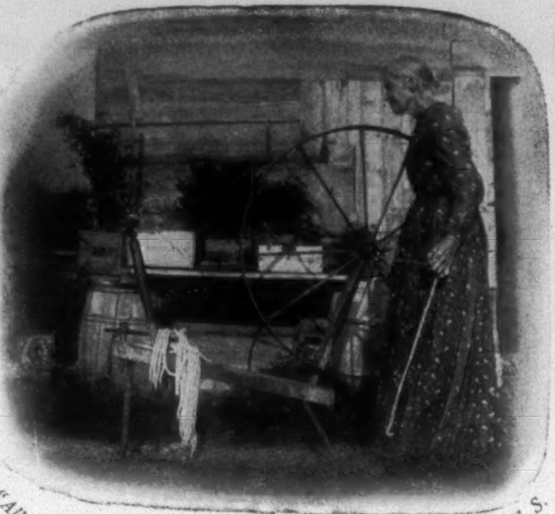
The North Carolina Textile Foundation has, by supplementing present college salaries, enabled the School of Textiles at North Carolina State College to secure several outstanding men for the teaching staff. Other such men are to be added to the faculty.

The present aim is to secure enough funds to be certain that this program can be continued for 20 years. The sum of ten cents per spindle or $8 per loom is a reasonable request, especially when it is a legitimate tax deduction. We urge mills to make donations.

When Dean Campbell took charge of the School of Textiles at North Carolina State College he found that the testing equipment was inadequate. The North Carolina Council of State promptly provided $15,000 with which to purchase testing equipment.

Later it was found that the equipment of the knitting department was both inadequate and antiquated. The manufacturers of knitting machinery offered liberal discounts and the Council of State provided the necessary cash so that about $60,000 worth of new and modern knitting machines can be installed.

The North Carolina Legislature which meets in January will be asked for $250,000 for an addition to the textile school building, and the request is almost certain to be granted.



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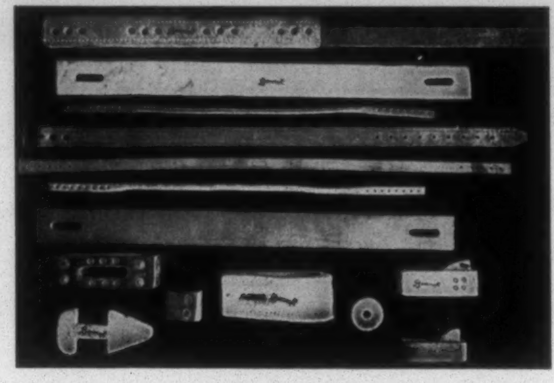

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DYEING AND FINISHING

A.A.T.C.C. Convention An Excellent Thought Provoker

ANONYMOUS

POLITICAL and wartime activities should not have all rights in presenting to the lay and technical public the condensed concensus of opinion on leading topics. In this case, neither should it be left to the so-called textile chemical patriarchs and publicity divisions of the various firms to portray the real thought-provoking talks and displays that the recent well-organized A.A.T.C.C. convention presented to the textile dyeing and finishing and allied industries.

Survey Made

Realizing it was impossible to attend all of the leading talks, the writer picked out a cross-section of leaders in the different textile groups and from them through questions and counter questions much of the "meat" of many of the most useful, practical and understandable papers was condensed for discussion in this short resume. Naturally, reference to many excellent papers will be purposely omitted in this short discussion as the topics to be discussed herein were selected for their particular interest to readers of TEXTILE BULLETIN.

Capt. R. S. Stribling's paper on "Recent Developments on the Application of Vat Dyestuffs" was rated as one of those really worthwhile papers as shown by the overflow attendance and the discussion, though short, which followed it. The basis of this paper was a resume of several of the leading processes now under development at plants with governmental contracts. Public questions and discussions of specific operating procedure was in most cases given in a very general style. This was one of the chief criticisms of this paper.

Discussion held in small groups after the meeting brought out many interesting points. These were: (1) Talks of such lengthy nature that have so many important sub-heads could be delivered in two parts with short period in between. In addition, the chairman could look over those in attendance and select two or possibly four parties who understand the practical and technical phases of the subject to be discussed, ask them to sit as a group to receive all questions and to formulate questions of pertinent value for those present. The speaker upon completion of the first part of the paper could hold up further delivery for a few minutes during which time the question and discussion group could get the audience to hand in written questions or make oral ones as they prefer. These questions could then be read so that those in attendance can be readying themselves for an able discussion—ot a slip-shod one as occurs so frequently after a well-presented paper.

Streamlined Method

After receiving questions for Part One of a paper, the speaker can complete same and then the question and discussion group collect queries on the last part of the paper. Such a schedule could be streamlined and permit a wider and more intelligent coverage of the practical and technical phases covered by the paper.

(2) The developments discussed in this talk were generalized to such a degree that some of the most valuable points were covered up in generalities and parties interested were not able to obtain detailed information which some felt was an unnecessary restraint when it could have been more open.

(3) As this work was based primarily on the Class A group of anthraquinone vat colors, many interested parties sought information as to the workability of these new developments on other groups of vat colors, but answers and information on this were short and not of particular value.

(4) An aftermath of these formal and informal discussions were the many rumors as to new undisclosed dyeing methods and equipment that would be presented to the mills shortly. Among these rumors were several that appeared to be "rehashes" of old ideas reworked and glossed over.

Norris Rabold's Paper

"New Developments in Drying Cotton Piecegoods," by C. Norris Rabold, was an exceptionally well presented paper. Comparative discussion of the merit and economics of modern drying units utilizing steam heat, radiant heat and infra-red-rays were discussed. The value and application of all new heating devices utilizing electricity was shown as being entirely dependent upon the high installation and operating costs. These high installation and operating costs must be reduced to an economical point where the potential values of these drying methods can be put to work on a widespread basis, not just in a few experimental units.

The delivery of this paper brought out an interesting situation. Present were a large number of engineers from the various electric and gas-fired drying equipment makers, but in a majority of cases they came as "observers" and were not of much assistance in furthering the discussion, though they were quite honest in the statement of their unpreparedness as related to textile drying.

A possible development stemming from the proposed use of these new electrical drying installations in textile

—(*Continued on Page 46*)

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- Firms having textile mill equipment for sale also find Textile Bulletin classified advertisements valuable in establishing business contacts.

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Thoroughly experienced all phases cotton yarn mill from buying cotton to selling product. Also had years of experience on colored and novelty yarns. At present employed but have reason for considering change.

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A.A.T.C.C. Convention An Excellent Thought Provoker

(Continued from Page 43)—

plants is that the electric power producing companies will have to start a study soon of how to give lower KW hour costs to interested plants. If the power companies balk on lowering the costs then there is a strong possibility that many of the larger textile plants may go into steam plants for making their own power, or if water power is available, utilizing it. That is a phase in textile mill costs that may be brought up again forcibly.

The Change from "Dyeing of Pigments—Their Use in the Textile Industry," by A. N. Henschel, to short talks by representatives of the makers of printing pigments lessened this rather interesting topic, but that is to be expected when such a large number of excellent subjects is up for discussion.

"Synthetic Fibers in Military and Post-War Fabrics," by H. Wickliffe Rose, was a well handled talk and one that made those present receive a new meaning of the possibilities in the manufacture of synthetic fibers. The speaker helped his listeners to visualize what careful study of technical requirements for new fabrics would mean to the textile worker, chemist and consumer. Many felt that the textile industry may gain a more normal and level production and improved living conditions in the future than has been possible during the past few decades.

SECTIONAL MEETINGS

Sidney Cone of Proximity Print Works, Greensboro, N. C., was elected chairman of the Piedmont section, American Association of Textile Chemists and Colorists, at its annual fall banquet meeting at Charlotte Nov. 3. Others named were Leland G. Atkins of Southern Dyestuff Corp., vice-chairman; John Neely of Burlington Mills Corp., treasurer; Wyss L. Barker of National Aniline Co., treasurer; Henry Dixon of May McEwen Kaiser Co. and S. L. Hayes of Ciba Co., national councilors; Luther J. McGinty of Nyanza Chemical Co., Ernest Caswell of Cloverdale Dye Works, Roy J. Beauregard of Fairforest Finishing Co. and James T. McGregor of E. I. du Pont de Nemours & Co., sectional committeemen.

It was reported that the section now has a membership of 348, and decided that the group would raise $2,225 toward the national organization's $35,000 research program.

The A.A.T.C.C. Southeastern section will meet at the Atlanta (Ga.) Athletic Club Nov. 25, according to an announcement by officials of the group.

An academic but extremely interesting talk by Andrew Fraser on "The Professional Status of the Textile Chemist" brought some interesting though limited set of statistics compiled from one or more of the leading chemical groups. The extreme specialization of a textile chemist was stressed and the better financial rating as to income was shown by some statistics. This statement was open to discussion, as numerous parties pointed out that the statistics as shown on this record were from a very selected group of chemists in the most prosperous divisions of the textile industry, and did not therefore represent a true picture of the actual income of workers so classified. This was brought out as definitely true of the chemists in many of the cotton and rayon finishing plants, whose income would not be of the same high rating as outlined by this speaker.

New Bonded Yarns

"The Treatment of Cotton Roving and Yarns With Bonding Agents," by H. M. Chase, was an extremely interesting discussion of the development work now underway at the Riverside & Dan River Mills on the manufacture of cotton yarns through the utilization of various bonding agents. Mr. Chase gave excellent illustrations of the potential possibilities that development work of this nature may have for the cotton growers and cotton mills of this country. His talk was a real inspiration to the often discouraged textile chemist and party in a plant who wishes to express himself on new ideas and how to improve various processes.

An interesting display of the small Buffalo Electro Chemical Co. model displayed this company's continuous peroxide bleaching process; goods proccessed by this method possess many advantages for dyeing and finishing over the intermittent bleaching procedure which is now in chief use. Some of the advantages gained by this new continuous peroxide bleaching process are: goods under less tension and handling; more uniformly prepared goods for the dyehouse; increased penetrability for prepared goods over the older methods will enable dyehouse to keep re-dyes and rejects to the minimum; and more uniform whites, permitting better finished fabrics in the whites.

All parties attending the technical session were intrigued by the excellent small model installation of DuPont's recently developed pad-steam continuous dyeing process for applying vat colors and the multi-lap dyeing machine now under development for wool, cotton and rayon blends.

Valuable Development

Discussion as to the merits of the pad-steam continuous dyeing process centered about several points. It was pointed out that the pad-steam process is a valuable contribution to the dyeing of vat colors on cottons when the goods are specially prepared by one of the recently developed continuous peroxide bleaching processes or other procedures.

The pad-steam process gives an excellent example of the need for replacement padders of the single bowl and older models by the newer types of two and three-bowl padders show as "microset" and other models. These newer types of padders enable operatives to apply the vat and chemical padding solution uniformly to the fabric without leaving an excessive amount of moisture on the goods under process.

The usefulness of the pad-steam process for spun rayon and rayon blends was doubted by many of the competent observers due to the distinct fundamental differences in the physical structure of prepared cotton and rayon fabrics when ready for vat dyeing. In prepared cotton, the high speed processing works nicely, as the vat color padded cotton goods will give an instant uniform take-up of the caustic-hydro chemical solutions when padded on, while with rayons and blends this is doubtful due to several factors. Rayons (viscose) during preparation procedures go through for removal of sizing, equalizing of rayon fibers and any other fibers present prior to dyeing. In many cases there may be special resinous agents applied to the rayon for equalizing color take-up during dyeing operation. These preparative operations tend to swell the rayon fibers on the surface of exterior of fibers, while with cottons they are prepared chiefly by desizing and bleaching, thus leaving a uniformly absorbent fabric and fiber which may be penetrated quickly and with level results by either vat-pigments or chemical solutions. Now, taking these differences into consideration and the differences in the physical structure of rayon (viscose) and cotton, many parties doubt that such high speed could be used in dyeing rayons by this pad-steam process as have been shown practical on cottons.

This speed factor is one that by practical development may be overcome. Another factor is that many rayon weaving plants are experimenting with the use of synthetic sizing agents on rayon goods, so here is a new physical and chemical factor for the dyer to consider.

Relative to rayon blends containing higher percentages of cottons, some parties advanced the practical point that slowing the padding speed on the chemical padder and using increased amounts of sodium formaldehyde sulfoxylate to replace the quick-decomposing sodium hydrosulfite may aid in the dyeing of vats on rayons and help prevent excessive migrations of the vat colors on both the rayon and cotton on blended fabrics.

Further development and use of the pad-steam process for the handling of vat prints was forecast by the dyers and plant chemists present. As to what effect development work of this nature would have on the reorientation and modernizing of print works, none would say. They tersely stated it would likely bring an influx of development and machinery engineers to every dyeing and printing plant in the country, which was not considered particularly desirable.

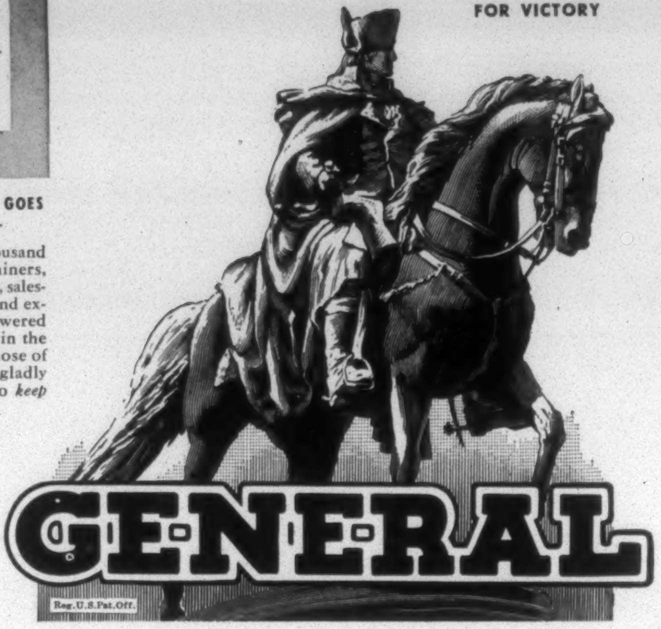
PERSONALS

(Continued from Page 38)—

C. H. LeRoy has resigned as executive secretary of the Rayon Producers Group, a post he has held since formation of the organization in 1933.

George E. Ward of New York has been named a consultant to the cotton and synthetic textile division, textile, clothing and leather bureau of the War Production Board. He is general manager of Southeastern Cottons, Inc.

Saul F. Dribben, president of Cone Export & Commision Co., has been elected to the advisory board of the Chemical Bank & Trust Co. at New York.



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Old Kentucky	Hazard No. 4 and No. 7 steam and domestic coal from Wiscoal, Knott County, Kentucky, on the L. & N. Railroad.
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CINCINNATI DETROIT NEW YORK NORFOLK PITTSBURGH

North Carolina Mill Executives Consider State and General Industry Problems

(Continued from Page 34)—state's system is retarding industrial development. "The real question to be considered is the over-all cost of government in a state," he added. Major factors in influencing industrial expansion, he insisted, are not only taxation but nearby raw materials, cheap fuel, low freight rates, and congenial atmosphere.

He declared in conclusion that, to assure continued growth of industry and payrolls and to clear the way for elimination of any economic hindrances in the taxation system, "it is but fair to the taxpaying public that their problems should be rexiewed and revised, if found necessary, to promote the welfare of our people." Popular interest in taxation, he added, "is democracy at work" and he commended the public for being not "complacent" but "progressive."

Results of the textile safety contest were announced by T. A. Wilson, chairman of the North Carolina Industrial Commission. First prizes were awarded to Superior Yarn Mills, East Monbo; Robinson Yarn Mills, Dallas; Greensboro Weaving Co., which also won the governor's special textile award for having completed five consecutive contests without a disabling accident; Ossipee Weaving Co., Burlington; Marion Mfg. Co. and Cascade Rayon Mills, Mooresville. Each was tops in its group. Indera Mills Co., Winston-Salem, has a record of six consecutive years with no lostime accident, having won the governor's award last year.

The day's activity was concluded with presentation of the past president's medal to Mr. Spaugh. This token is awarded each year by the association.

New Velon Plastic Is Announced

Raincoats so light and thin that they can be slipped into a woman's hand-bag, and inexpensive awnings that neither fade nor wear out are two of hundreds of post-war products to be made from a unique new material announced recently by Firestone Tire & Rubber Co. The material is a plastic film, which can be made as thin as a hair and as soft and flexible as fine cloths, yet which is comparable in strength to metals.

The film is the newest member of Firestone's Velon plastic family, which already has been thrown into dozens of important war jobs ranging from screening for American jungle fighters to lenses for gas masks, and which eventually will be used for a wide variety of products ranging from woven fabrics sheerer than the finest silk to shoe soles tougher than leather.

Stitched with an electronic sewing machine that substitutes heat for thread, as well as being stitched in conventional fashion, the Velon film alco can be sprayed or brushed on textiles and paper to waterproof and strengthen them. Velon film comes in colors so brilliant that draperies, upholsteries for dining room and outdoor furniture, and even wallpaper eventually may be made from it.

On the technical side, the film is elastic, flexible, odorless, tasteless, non-soluble in water, and particularly resistant to scuffing, snagging and tearing. It can be furnished in sheets as fine as one-thousandth of an inch or in heavy slabs, and is unharmed by oil, acids and grease.

United States Rubber Co. has agreed to purchase the assets and business of the L. H. Gilmer Co. of Philadelphia, manufacture of industrial V-belts, it has been announced. The purchase was made to round out further the mechanical goods division of the rubber company. No change in the management or operations of the Gilmer company is contemplated. John S. Krauss, president, will continue in the active management of this business.

The Gilmer company has been known since 1907 as a manufacturer of endless belts. The line consists of V-belts for the industrial, automotive and household appliance fields; and flat and round endless belts for power transmission, certain of them of patented construction designed for special-purpose industrial applications. V-belting for use with connectors and flat belting in rolls complete the belting line. The company makes in addition a line of moulded tire treads for industrial truck manufacturers.

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We invite the hard jobs that we are frequently called upon to produce because by doing them better we feel we are contributing more to the textile industry—and, we have learned and improved our skills through the experience. Wherever our "CHAMPION" trademark appears on textile leather products it means just that.

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GREENVILLE, SOUTH CAROLINA

CHAMPION

OCR Functions and Organization Outlined in WPB Order

An order outlining the organization and functions of the Office of Civilian Requirements was announced this month by the War Production Board. Only the position and duties of the vice-chairman for civilian requirements, William Y. Elliott, had been established previously. The new order gives formal recognition to the structure built by the vice-chairman and formalizes functions that he has been performing in addition to those already established heretofore.

Among these duties are the following, as described in the text: Participation "in the review of plans for cut-backs in military and other war programs" and recommendation of the "facilities most suitable to release in order to resume or expand the production of goods and services, for which he acts as claimant, which are of the greatest benefit to the civilian economy;" specifications of "the kinds, categories, and amounts of goods and services, for which he acts as claimant, which should be provided first as resources become available as a result of cut-backs or other changes in war requirements."

Another change made by the new order makes the government division, now operating as a separate unit under the vice-chairman for civilian requirements, an OCR bureau. "The change recognizes the importance of the service that the government division has been rendering Federal, state, county and local governments, educational and welfare institutions and churches," WPB officials said.

Essential civilian supplies will continue to receive OCR's protection until it is clear that demand and supply are coming into balance, J. A. Krug, WPB chairman, said in outlining the functions that he believes OCR will have to perform in the public interest. "The Office of Civilian Requirements must be on the alert to watch developments in the civilian supplies that support an effective war effort," Mr. Krug said.

Under the new order, OCR will continue to have the following functions in protecting essential civilian supplies: seeing to it that sufficient supplies are maintained to meet essential civilian requirements; seeing to it that the products in short supply are fairly distributed to all parts of the country in accordance with essential needs; after consultation with the industry divisions, certifying to the Office of Price Administration, under the terms of the Vinson Directive, those cases in which production is being held up by need for suitable price action; and watching the claims for the export of any short supplies, so as to protect the essential supplies for United States civilian consumers.

Palma Istle Free for Twine Manufacture

Conservation Order M-138 has been amended to remove all restrictions on the amount of palma istle that may be used in the manufacture of twine, the War Production Board reported last month. The amended order further permits the consumption of a limited amount of pita istle, grade F.A.Q. (fair average quality), in the manufacture of twine. Heretofore, the use of pita istle of this grade has been confined to rope.

It is expected that these changes will provide for the more effective use of manufacturing capacity adapted to the processing of istle fiber in the production of twine, WPB said.

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SODIUM NITRITE

Running Rayon in the Cotton Mill

(Continued from Page 30)—Chairman McDowell: The next question on the picker is "How do you control friction?" That is in making your lap.

Mr. Kennette: I mentioned that if you would taper the pin and polish it highly it will ease it in pulling it out.

Chairman: What about the weight?

Mr. Kennette: I think most of the mills have cut the weight down to about a third of that which you would use on cotton. Of course, you have to balance your calender rolls and keep them working together. I think most of the time, where you run around 35 to 40 pounds of weight on your lap lever, most of them are cutting it down to half of that, and some to as low as ten to 11 pounds.

Chairman: You mean the weight on the calender rolls?

Mr. Kennette: No, that is the weight on the lever that controls the lap.

Chairman: How about the weight on the calender rolls, leaving the same weight on the calender rolls that you use for cotton? Have you experienced any trouble there with the fibers being injured?

Mr. Kennette: In cases where you have fibers that are unopened, if you have little areas in there that are bound together hard and not opened, if you use too much weight on them it is apt to pulverize them and crush them. You have to go back and open your stock.

M. R. Harden, superintendent, Erwin Cotton Mills Co., Number Four, Durham: Would it be just as well to slow down the beater speed and give the same yardage of lap? Is it the object to cut down the number of beats in slowing down the machine, or what is the advantage? We are going to have to keep the cards going.

Mr. Crumpler: We felt we were perfectly safe in slowing down our pickers because we were fortunate enough to have picking equipment enough to take care of our cards. In our mills we have four pickers of one type and also a Saco-Lowell picker. We use that Saco-Lowell to run rayon on, and when we do not need to run rayon on it we run cotton. We just happen to have that extra equipment.

Chairman McDowell: I might say I have run some rayon and ran it at a beater speed of 1,200 on the first section and 1,050 on the second and 800 on the third, which is a Kirschner beater. They are the same speeds we ran on cotton. I did not experience any difficulty and did not bother the grid bars or anything. The rayon came right on through the picker, and I don't believe in a thousand pounds of rayon that ran through the picker you would get a double handful of waste, particularly in the mote box. Of course, most of that which drops out can be run over, so it is really not waste. I have not found any particular difficulty in running rayon on the straight cotton system. That has been my experience. I think that probably a lot of our cotton systems will run rayon when we think they will not. That is the problem we are up against today—to run rayon on the present system without buying new machinery. I think if you will try it and will make a few adjustments you will find that you can handle the rayon all right. It is mighty fine to have an elaborate layout such as

Mr. Henderson has up at Dan River, and which is probably what we shall have when we go into it in a large way.

Let's go on to the cards now. The first question is as to the cylinder speed, doffer speed, and production, and the next as to the settings, etc., that you use on rayon. To start off the discussion, I believe I will read the information sent in by J. R. Meikle of Patterson Mills, Roanoke Rapids: Cylinder speed, 170 r.p.m.; doffer speed, 12 r.p.m.; production, 13 pounds; flat setting, 12/1000; doffer setting, 7/1000; lickerin setting, 7/1000; feed-plate setting, 22/1000; screen settings, ⅛-inch at the cylinder and ¼-inch at the doffer end; mote knives, top, 12/1000, bottom, 7/1000; stripping plates, 17/1000. He said, as to grinding his cards, that two weeks is his normal grinding. He strips the cards once every 24 hours. The stripping system used is the roller, which is a hand roller, I presume.

Mr. Grover: The settings that Mr. Meikle gave there are very close to the settings I have used. The cylinder speed was 172. The doffer speed depends somewhat on the blend. With a high percentage of wool we kept down to nine turns of the doffer; on straight blends of 1.5 denier we went up to 11 turns of the doffer. One of the important things we found out was to control the tension between the doffer and the calender roll. I believe we had to change our tension and take up one tooth.

Chairman: Let's get that straight. Between the card calender roll and the doffer you change a tooth?

Mr. Grover: There was a tooth there, a tooth between the doffer and the calender roll. I do not know exactly what that gear was, but it was one tooth out of 37, I think, os it was a slight change. The settings we used were pretty well in line with what you read there. The doffer setting was seven, and the licker in setting was eight. The feed-plate setting, we ran 29. The mote knives, if I remember correctly, 14.

Chairman: You ran 14 at top and 14 at bottom?

Mr. Grover: Yes. Those are the general settings. We stripped our cards more often; we stripped once a shift. We ran three shifts and stripped once a shift. We used the vacuum type of strip.

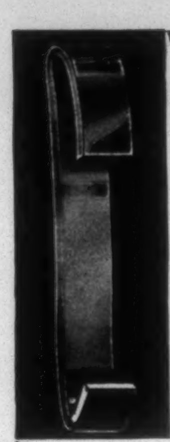
C. A. Irby, assistant superintendent, Roanoke Mills Co. Number One, Roanoke Rapids: We have a mixture of 25 per cent cotton and 75 per cent rayon. It was dyed stock. We had no difficulty on the card; we did not change anything except the feed plates. We had a little trouble in the previous year with this dyed cotton; we had to open it before we dyed it. It was packed so. We had to run it through the bale breaker and vertical opener before we dyed it.

Chairman: You did run it through the vertical opener, too?

Mr. Irby: Yes, sir. In fact, we ran it through our whole gyrating equipment—bale breaker, opening picker and picker. We mixed it and took four laps on the picker, to get our percentage.

Chairman: Would you mind telling us, while you are on that, what doffer speed and what production?

Mr. Irby: We were running our card 185. The whole card was speeded up in proportion, except the comb. We



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were carding about 14 pounds an hour. The weight of the lap was 13.2 ounces.

CHAIRMAN MCDOWELL: How about your grinding? Do you find that your card needs to be sharper for rayon, or does your ordinary grinding for cotton take care of the situation?

MR. IRBY: Well, at the time we ran this we did not grind the cards ahead; we just took five or six cards and put it on them; and they did a fine job, I thought. We grind our cards every ten days.

MR. GROVER: I should like to ask what Mr. Kennette has found, in general, in the industry on flat speeds. Some mills are running normal speeds; others slow it down. Have you any information on that, Mr. Kennette?

MR. KENNETTE: Well, in the early days most people thought that slowing down the flats was the proper approach, and so they got down to about $1\frac{1}{2}$ or two a minute, or something like that—quite slow. The next move was reversing the flats. They spoke of running it right on back and dropping it on through. Then in later years there was a very definite trend to running the flats more nearly at normal speeds and taking out enough strips to be sure to get rid of the neps, except with very rough yarn; then they are not so careful about it. Most of them now are running normal cotton speeds of the flats and taking out the strips and not working those strips back in, but working them up in special yarns.

CHAIRMAN: Mr. Green, what are you doing on the cards? Have you made any particular changes?

MR. GREEN: No, we have just run in the regular way. I should like to know what you are doing with the flat strips if you do not put them back.

MR. KENNETTE: I have just told you we work them up in special yarns. The market is full of novelty fabrics, rough fabrics, where the strips work in and really add to the character of the fabric.

CHAIRMAN MCDOWELL: I believe the tendency was to take out less strip.

MR. KENNETTE: It was at first, but it has swung now to taking out the normal amount of strips.

J. E. MCGEE, assistant superintendent, Rosemary Mfg. Co., Roanoke Rapids: Most of these men have been talking about blends, but some of us are running straight rayon. At Rosemary we are running 1.5 denier, $1\frac{1}{2}$-inch staple; but it is 100 per cent rayon.

CHAIRMAN MCDOWELL: Does anyone want to ask Mr. McGee any questions about the experience we have had on rayon?

MR. MCGEE: While we are on the cards, I might say that we are fixing to start blending on the cards. We do some double carding. We are going to run one sliver of rayon and one sliver of cotton, using a 50 per cent mixture, the weight of the rayon and of the cotton being the same. That will be our first blending.

CHAIRMAN MCDOWELL: Let's go on to the drawing frames. Some of you give us your roll settings and speeds on those. Mr. Henderson, do you have some information you can give on that from your mills?

MR. HENDERSON: I might say that we have accumulated a lot of experience with rayon at Danville, but we have so many spindles up there that we are more or less specialized. For instance, in my own division there are something like 330,000 spindles and 8,000 looms. I have a man who is a very fine rayon man in charge who does the work, and, frankly, I do not pay a great deal of attention to it. I am sorry I cannot answer that question. If anyone is interested in knowing our experience (and, as I say, we have a great wealth of experience on rayon) we shall be glad to have him come up and see what we are doing.

CHAIRMAN MCDOWELL: Mr. Irby, how about you? Can you give us some information?

MR. IRBY: We have the conventional two-process Saco-

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Lowell drawing. The front roll speed is 365. The roll setting, the first to the second, is $1\frac{1}{2}$ inches; the third to the fourth, $1\frac{7}{8}$ inches. We have the cork top roll, about $1\frac{3}{16}$ inches in diameter. Of course, we were using $1\frac{9}{16}$-inch denier rayon, and that was the widest setting we could get. The front roll speed was 365.

CHAIRMAN: I should like to say, in regard to the drawing that Mr. Irby spoke about on the drawing frame, where you have the regular Saco-Pettee frame with metallic rolls, I have found that you can increase your setting between the rolls. Where the clearer board fastens onto the back of the frame there is a little stand there, similar to the roller stand. You can take that stand off there and move it farther back. Of course, you will have to bore a new hole. Then you can move your roller stands on farther back. By doing that you can get varying settings for $1\frac{1}{2}$-inch staple; between the first and second rolls, center to center, $1\frac{3}{4}$-inch; second to third, $1\frac{7}{8}$-inch; and the third to the fourth, two-inch. Those settings are very much in line with the regular cotton settings taking care of $1\frac{1}{2}$-inch staple. You can get those rolls open by doing that. Otherwise the bearings for your rolls will not move back enough. Then your clearer will still be over all four rollers.

Let's pass on to the fly frames. Will someone give us the front roll speed, hank roving, twist multiple, etc., that you are using on your fly frames?

C. C. CULBRETH, overseer carding, Eno Cotton Mills, Hillsboro, N. C.: Our front roll speed is 147; hank roving, 1.50; twist multiple, .85. We use a synthetic roll. Our roll settings are $1\frac{13}{16}$ inches and $1\frac{15}{16}$ inches. That is for $1\frac{9}{16}$-inch staple.

MR. IRBY: We use 2.85 hank roving. We have about 2.20 twist multiple on that. Our front roll speed is 121.

MR. KENNETTE: Is that 2.20 turns per inch or 2.20 twist multiple?

MR. IRBY: 2.20 turns per inch.

MR. MCGEE: We have super draft fly frames. The front roll speed is 210; hank roving, 1.50; twist multiple, 1.10. 60-grain sliver. Leather rolls. Roll settings, back, $1\frac{7}{8}$ inches; front, $2\frac{1}{16}$ inches. We have used synthetic and leather rolls on the super draft frame, 205 front roll speed, 1.10 hank roving, .90 twist multiple, same roll settings, 60-grain sliver.

CHAIRMAN: What was your roll setting, Mr. McGee?

MR. MCGEE: $1\frac{7}{8}$-inch, back; $2\frac{1}{16}$-inch, front.

CHAIRMAN: Someone please tell us something about his experience on the spinning frame.

M. E. ALLISON, spinner, Eno Cotton Mills: This is Whitin type spinning, floating roll. The front roll speed on this particular type of yarn is 126. It is 20/s yarn, 3.50 twist multiple. We did not change our roll setting.

CHAIRMAN: What type of rolls?

MR. ALLISON: Leather.

MR. MCGEE: We are making 10/s on Whitin long draft; front roll speed, 210; $2\frac{1}{4}$-inch ring, eight-inch stroke; 3.20 multiplier; $1\frac{3}{16}$-inch cork top roll; roll settings, first to second, $1\frac{5}{8}$-inch; second to third, $1\frac{3}{4}$-inch. That is on cotton. The roll settings on rayon are both $1\frac{3}{4}$-inch;

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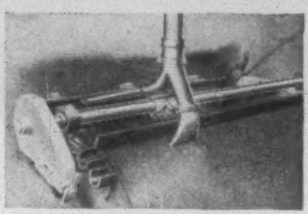

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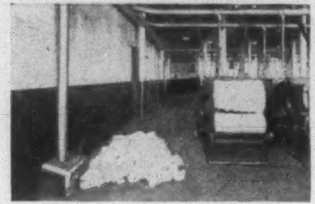

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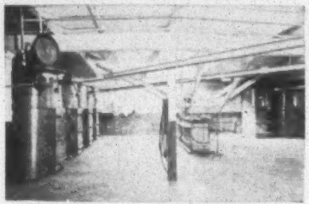

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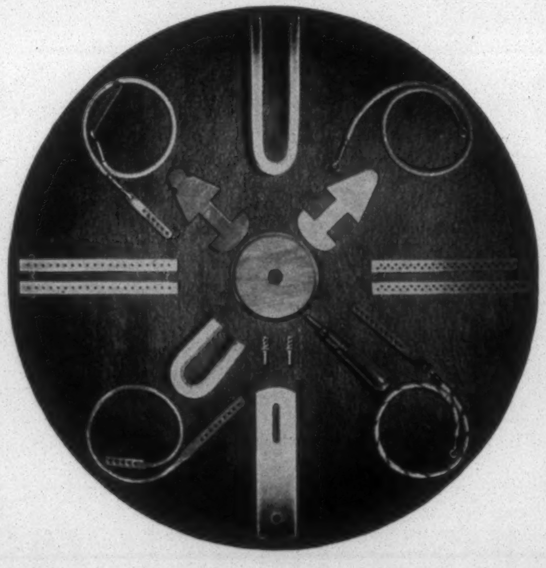

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1.00 hank roving. On conventional draft, H. & B., we are making 40/s yarn, with a front roll speed of 104; 3.50 twist multiple, one-inch leather rolls. This machine was not built to make 40/s; it was built to make about 20/s. As I said, we have a front roll speed of 104; 1¾-inch ring; 5.00 hank roving. Roll settings, back to front, 2½ inches.

CHAIRMAN: If some of you could not open your rolls wide enough for 1½-inch staple, how did you get around that?

MR. GROVER: Take the conventional top roller out and use a wooden roller.

CHAIRMAN: How about a steel roller?

MR. GROVER: We have used that, too. We had some frames with a solid steel middle roll and 1¼-inch front roll. That worked very well on synthetics, because of the large roll size. It worked very well with a metallic roll but ran better with a Washburn roller. We used a 1.50 hank double roving, mainly because our speeder tenders did not like to run the 3.00 roving. It was right much work for them. We found from 14 to 16 was best. If we ran over 16 we got into trouble. It produced Grade A yarn from the standpoint of appearance.

A MEMBER: I should like to ask the gentleman something about the roll settings with the Washburn type.

MR. GROVER: There is a lot of feeling on that, too. It is a matter of preference and of trying them out. We found we could pull our roll settings down to between 1¾-inch and 1⅜-inch. That was about as close as we could go, because of our roller size.

CHAIRMAN: You mean between the first and the second?

MR. GROVER: Yes. Roll settings are so easy to check, anyway, that I would not like to say. I think the best way to check the thing is to watch it on the doff and see how many cockrels you have on the ends there, and if you have a few it is probably all right.

MR. MCCOMBS: You recall we used to have to make 23/s combed yarns out of Sakellarides and Egyptian cotton. We had the old type of rollers and could not spread them at all. We took the weight off the middle roll and did not have a cockreled piece of yarn in five years.

CHAIRMAN MCDOWELL: Will someone give us the formula he is using for slashing, either on all rayon or on mixed?

A. B. LYLES, overseer spinning, Rosemary Mfg. Co.: I have one here for one end of rayon and one end of cotton: 35 pounds of thin-boiling cornstarch, three pounds of tallow, three pounds of C-101, which is a binder, and ¼ pound of polyneozine. That is to dissolve the starch. That is a formula for 50 gallons.

MR. MCGEE: That formula he gave will not do for filament rayon.

CHAIRMAN MCDOWELL: That is for cut staple.

MR. GREEN: Mr. Chairman, I will say one thing. Most of these dextrin salesmen will give you a formula that will do very well for the finishing plant. My advice to you is to double any size formula they may give you if you are going to run your yarn. You may have to double your dextrin and double your cornstarch.

Textile Research Projects Are Dramatized At Institute Meeting

The research jobs which the Textile Research Institute, Inc., is now conducting were the subjects of the various sessions of the institute at its annual meeting in New York Nov. 10. Thus there were dramatized the applied research projects at the morning session; the economic research projects and the educational program at the first afternoon session; and the fundamental research program at the last session of the day. At the luncheon, the speaker was Dr. Gustavus J. Esselen whose subject was "The Textile Industry—Rebirth or Second Childhood?"

Conducted by W. D. Appel, chairman of the applied research committee, that session included reports on "The Cotton Carding Project," by Prof. Elliot B. Grover of the North Carolina State College school of textiles; "Warp Sizing," by Prof. W. E. Shinn, also of the North Carolina State; and "Radiation Drying," by Dr. Richard L. Wilhelm of the institute's staff at Princeton, N. J. The paper on cotton carding was a preliminary progress report of the project being conducted at North Carolina, under the direction of, and in co-operation with, the Office of Production Research and Development of the War Production Board, and the Textile Research Institute. Tentative conclusions and observations reached to date include the following: (1) considerable increase in card production per unit are feasible without detrimental effects on the quality of the product; (2) yarn strengths are not impaired significantly as a result of increased card speeds; (3) yarn character or appearance is affected to a moderate degree only by increases in card speeds; (4) neppiness is affected more by the condition of the raw material than by changes within the card; (5) high fiber strength cotton will result in good running work and high strength yarn; (6) fiber strengths are not impaired by increased card speeds; (7) average fiber lengths by weight remain unchanged over wide ranges of card speeds; (8) waste removal can be controlled at least to a limited extent to allow high productions without serious deterioration in the quality of the product; (9) peak power demand charges are not increased by the use of high over-all card speeds; (10) further investigation is needed and will be made on the effect of front knife plate settings.

The meeting on the economic research project, now being conducted by the institute, was under the direction of Robert R. West, chairman of the economic research committee. An outline of the project was presented by Dr. A. M. McIsaac of the department of economics, Princeton University, who is heading it up. He explained the need for a broad-gauged appraisal of the problems and situations that will confront the textile industry in the post-war period and added that it seemed wise to try to assemble and present, in a systematic way, the best information that can be had regarding the conditions that are likely to be the course of the post-war readjustment and to influence the position of the industry for some years to come. Describing the organization of the project, Dr. McIsaac stated that the execution would be under the direction of an executive committee, of which he is chairman, with the assistance of Prof. J. G. Smith, also of Princeton, and with Douglas G. Woolf, director of economic research for the institute, as administrative officer.

Among the subjects for detailed study are: (1) The de-

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mand for textiles; (2) foreign textile industries and markets; (3) textile labor—including questions of labor supplies, organization and costs; (4) textile materials, costs, trends and future prospects; (5) textile production, manufacturing methods, organization and costs; (6) textile financing; (7) industrial structure and organization, including tendencies toward or away from horizontal or vertical integration, reorganization, etc.; (8) textile markets and distribution; (9) textile prices and price policies; (10) industrial migration. In addition to an introductory report which will survey the ground, reports will be made on these separate project-studies, and finally a summary will be issued making clear the interrelationships of the various analyses. Dr. McIsaac made clear that a final report does not mean another bulky tome to gather dust without being read, but rather a series of brief, high-spot pamphlets that will serve to put the spotlight on the salient facts, so that even he who runs may read.

At this same session, Dr. Frederick M. Keiker, dean of the school of engineering at George Washington University, presented a preliminary report on findings of a special committee on textile education appointed by the Textile Foundation and Textile Research Institute, of which he is chairman. Dr. Keiker reported that, at a series of conferences, three specific proposals were discussed: (1) Education for technological research at the graduate level; (2) one-year textile orientation course for a non-textile college graduate; (3) teaching textile economics in colleges. The preliminary report will be followed later by definite recommendations.

At the members meeting held prior to the luncheon, reports of the committees were made available, officers were elected and the address of the president, F. S. Blanchard, presented. Mr. Blanchard summarized the progress made in the five-point program approved by the directors. This progress includes the four projects in applied research now being conducted, with others under consideration; the plan to launch the fundamental research program at the institute's headquarters at Princeton, under the direction of Dr. Henry Eyring; the start already made in the graduate training program at Princeton; the economic research project on the competitive position of the post-war textile industry; and the plans for an enlarged and improved publication and information service. He also reported on the progress of the membership campaign. Membership income, which was $25,310 at the annual meeting a year ago, stood at $94,120 at this year's annual meeting. The income includes that from 83 old members who accepted the new basis of membership, and from 79 new members. In closing his remarks, Mr. Blanchard stated: "We all have a common aim—to promote the welfare of the textile industry through research. With your support I am sure that we shall succeed."

Officers were re-elected as follows: Fessenden S. Blanchard, president and executive secretary; Douglas G. Woolf, first vice-president; Robert E. Rose, vice-president; Harold DeWitt Smith, vice-president; Edward T. Pickard, treasurer. New directors elected were: A. G. Ashcraft of Alexander Smith & Sons Carpet Co. and J. E. Bassill, president, Tubize Rayon Corp. The directors of the Textile Research Institute now include: W. D. Appel, A. G. Ashcroft, John Bancroft, Jr., J. E. Bassill, Arthur Besse, Fessenden S. Blanchard, F. Bonnet, C. F. Broughton, Fuller E. Callaway, Jr., H. M. Chase, Earl Constantine, Russell T. Fisher, Ephraim Freedman, H. Grandage, M. Earl Heard, Marland C. Hobbs, Luther H. Hodges, Charles J. Huber, W. M. McLaurine, Louis A. Olney, Edward T. Pickard, D. H. Powers, Robert E. Rose, Edward R. Schwarz, Albert L. Scott, Harold DeWitt Smith, Charles A. Sweet, Albert C. Walker, Robert R. West and Douglas G. Woolf.

Dickson Company Celebrates 25th Anniversary

The 25th anniversary of R. S. Dickson & Co., security dealers with home offices at Charlotte, was observed recently. R. S. Dickson, president, established the company at Gastonia, N. C., in 1919, to deal chiefly in textile manufacturing stocks. In the intervening quarter-century the firm expanded greatly, and now has numerous branches in larger cities. Mr. Dickson is president of American Yarn & Processing Co. at Mt. Holly, N. C.

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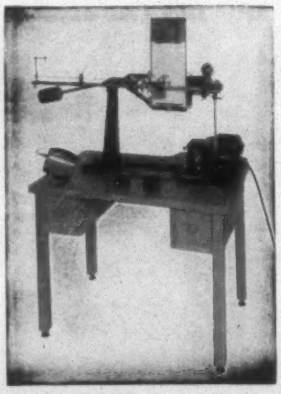

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OBITUARY

Joseph W. Hawthorne, 47, assistant secretary of Jewel Cotton Mills at Thomasville, N. C., died Nov. 2 following a short illness. He had been associated with the company since leaving the banking business at Charlotte some time ago. Survivors include his wife, one daughter, mother, a brother and one grandchild.

James E. MacDougall, 53, prominent in the textile industry for a number of years, died Nov. 10 at his home in Charlotte after a lengthy illness. Mr. MacDougall, left, was a veteran of World War I and a graduate of the school of textiles at North Carolina State College. Following his military service he became associated with Smith, Drum & Co. of Philadelphia, and in 1936 was appointed Southern manager for the firm in Charlotte. Early in the present war he was named manager of the War Production Board's Carolinas district, and served until ill health forced him to resign. Survivors include Mrs. MacDougall, a son with the Navy overseas, his mother and two brothers.

Dr. G. Heberlein, 70, head of Heberlein & Co., A. G. Watwil, Switzerland, died recently in that country. He was a leader and authority in the Swiss textile industry. Under his guidance many new features in textile finishing and production were developed which are now utilized throughout the world. He was well known in this country.

Martin William Rodier, 53, Atlanta representative for Turner, Halsey & Co., died Nov. 4. He had been active in the textile industry for some 30 years. Survivors include a son, two daughters and two grandchildren. Last rites were conducted at Jacksonville, Fla.

John O. Corbett, 63, office manager for Locke Cotton Mills Co. at Concord, N. C., died recently after a heart attack. He is survived by his wife, two sons, two daughters, four grandchildren, a sister and a brother.

Henry M. Cleveland, 70, formerly active in the Southern textile industry, died recently at Spartanburg, S. C. He was at one time associated with the Loray Mills at Gastonia, N. C., and Startex Mills at Tucapau, S. C. Survivors include his wife, a daughter, two grandchildren, a brother and two sisters.

Lieut. Robert S. Currier, 25, son of Kenneth Currier, head of the American Viscose Corp. war procurement department, was killed during the first paratroop invasion of Holland. He is survived by his parents, a brother and a sister.

Ramsey Peugnet, 74, long secretary of the Silk Association of America and its successor, the National Federation of Textiles, died recently at his home in Bronxville, N. Y. He was also secretary-treasurer of United States Testing Co. until 1942.

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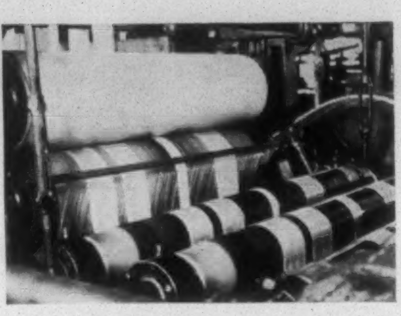

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Callaway Institute Buys Headquarters Site

Callaway Institute, Inc., LaGrange, Ga., has purchased the building it has leased from Callaway Mills since the formation of the institute early in 1943. The purchase, which was a cash transaction, includes also all of the equipment, machinery and other facilities in the institute building which formerly belonged to Callaway Mills. These facilities include the extensive technical library of more than 2,000 volumes; the equipment in the physical testing laboratory; the chemical laboratory equipment; and the photostat department. During the past year, the institute has installed a complete mechanical laboratory including new, precision-made tools, and a photographic department, and added substantially to the technical library, as well as to the other departments.

The institute is a self-sustaining, non-profit, scientific research and educational institution whose services in research, testing and training are available, under individual contractual arrangement, to any textile mill or other type of business it is qualified to serve. Its research and personnel training services are described in a recent booklet, "A Research Service and Training Program for the Textile Industry," which may be obtained from the institute.

Robert W. Philip, formerly editor of *Cotton,* Atlanta, Ga., became president and executive director of the institute Jan. 1, 1944. The staff now includes about 30 members engaged in research and testing work under contract with a number of textile plants in the Carolinas and Georgia.

Varied Use of Rayon Predicted

Two important post-war developments expected in connection with rayon are the wider use of high-strength rayons in civilian clothing fabrics and the introduction of new types of rayon specialty designed to meet specific needs, according to American Viscose Corp.

Higher strength rayons of the same general type as those now being used in the fabric of tires for bombers, fighting planes and Army motor vehicles will become available for civilian clothing and home furnishings and for industrial uses. They will be used, among other things, in sheer fabrics that will have greater strength and serviceability than it has been possible to give such luxury fabrics in the past, and also in industrial applications indicated by the use of rayon in the war program.

Special rayons designed for special purposes will undoubtedly become more numerous. These will be "tailor-made" to provide characteristics needed for specific uses. Special rayons of this kind are already used in rugs, rayon-and-wool blended fabrics, mantles for kerosene lamps and paint brush bristles.

Cotton Shoe Laces Replace Nylon

The Quartermaster Corps has developed an improved, weather-resistant cotton shoe lace to replace those formerly made of nylon. The need for the substitution of cotton arose from the increased requirements of nylon for the manufacture of airplane tires. Experience of the Army Air Forces has proved that tires built around nylon fabric would resist the impact of planes landing better than any other fabric. Therefore, the requirements of nylon for the Quartermaster Corps have been pared down to absolute necessities. The new cotton lace, developed in co-operation with the industry, is impregnated with a special wax solution which also includes a mildew-resistant treatment.

Third Quarter Rayon Production Totals 175,500,000 Pounds

Production of rayon yarn and staple fiber totaled 175,500,000 pounds during the third quarter of 1944, reports *Rayon Organon,* published by the Textile Economics Bureau, Inc. This figure represents a drop of 3,400,000 pounds or two per cent from the total of 178,900,000 pounds produced in the second quarter of the year, but is substantially above the third quarter 1943 output of 166,900,000 pounds. The decline in third quarter production was due primarily to vacation shutdowns.

For nine months ended Sept. 30, production of rayon totaled 532,600,000 pounds, of which 406,400,000 pounds were rayon filament yarn (278,900,000 pounds viscose and cupra and 127,500,000 pounds of acetate yarn) and the balance consisted of staple fiber. In the corresponding 1943 period production of all types totaled 490,700,000 pounds. These figures, states the *Organon,* clearly indicate that the 1944 yearly total will be above the 1943 level, particularly in the viscose and cupra field, in which a 12 per cent increase already has been recorded.

The current issue of the *Organon* contains a chart with accompanying figures, giving a clear picture of the growth of rayon production since 1939. While the increase in output of viscose and cupra rayon yarn was due to natural growth before the war, the increase since 1942 has been due primarily to the rayon tire yarn production. The effect of this tire yarn production is clearly indicated in the production record which shows an output of 92,000,000 pounds of viscose and cupra yarn in the third quarter of 1944 as against 73,500,000 pounds in the corresponding quarter of 1941. Acetate yarn output on the other hand was almost even, totaling 41,400,000 pounds in the third quarter this year against 40,700,000 pounds in the corresponding 1941 period. Staple fiber output in the third 1944 quarter totaled 42,100,000 pounds against 35,600,000 pounds in the equivalent 1941 period.

Domestic shipments of rayon filament yarn in October totaled 46,900,000 pounds, which compares with deliveries of 44,800,000 pounds in September and 43,900,000 pounds in October, 1943. For the ten months ending Oct. 31, 1944, shipments aggregated 439,800,000 pounds, an increase of eight per cent over the corresponding 1943 figure of 408,100,000 pounds.

Staple fiber deliveries in October amounted to 14,400,000 pounds against 13,000,000 pounds shipped in September and 13,900,000 pounds in October, 1943. A total of 138,000,000 pounds of staple fiber was shipped during the January-October, 1944, period, three per cent above the corresponding period in 1943, when 133,600,000 pounds were shipped.

Rayon filament yarn held by producers declined from 7,700,000 pounds Sept. 30 to 6,700,000 pounds Oct. 31, a 13 per cent drop. This compares with producers' stocks of 7,600,000 pounds at the end of October, 1943. Rayon staple fiber stocks at the end of October aggregated 2,700,000 pounds against September holdings of 3,000,000 and Oct. 31, 1943, stocks of 2,500,000 pounds.

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Cotton Goods Market

Vigorous condemnation of OPA'S new formula for computing profits on cotton textiles has been voiced in leading Worth Street houses. The plan was characterized as one of the most revolutionary proposals ever made by OPA, and one that is entirely foreign to the industry.

As reported in the trade, an outline of the formula was submitted to one of the industry groups and had never been offered to the general advisory committee for discussion. Developing a formula without prior consultation of the advisory committee was held another departure from the customary practice of the government agency, which meets with the industry before promulgating any ruling.

The selected base period was not a profitable one for the cotton textile industry, it was pointed out in a number of places, and even OPA officials have admitted this to be the case. However, while the industry may have had better years, general industry did show a favorable return, it was added. This is ascribed by OPA as the reason for including the cotton textile industry with all others in the same period. The period from 1921 to 1929 is understood to have been proposed as more representative of normal operations in the cotton textile industry.

Industry protests against the new formula are already in preparation, and some predict this plan will meet the most strenuous objection ever registered by an industry to an OPA proposal.

The additional expansion of the tenting fabric program, covered by WPB's recent directive to mills producing herringbone twills, ordering them to shift 27 per cent of looms to making tent twills, has revived among mill men the question of manpower, which they say continues to be the gravest hindrance to increased production.

In Georgia specifically, and in other textile states also, they say many mills are now running only 50 to 60 hours a week because of the lack of labor. Workers continue to be enticed away by higher-paying indutries, such as the bomber plants in Georgia, and few replacements are being enlisted, according to mill employment reports.

While much mill equipment is old, it could be kept running on a 16 or even 24-hour daily schedule, they state, if sufficient labor was obtained to operate more than one shift, as is being done in mills that are more isolated from industrial centers. Shortage of manpower, they point out, is not only holding down the production of cotton fabrics, but is causing the bottleneck in finishing plants. As relates directly to tentage, they cite instances where goods are piling up in plants that desize, flame-proof and treat these fabrics to make them water repellent and mildew resistant.

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Cotton Yarns Market

There is less free yarn in the Philadelphia market than ever before in the memory of veteran traders, especially in the coarser counts.

The carded counts are scarce throughout the entire list with combed especially hard to get in 30s' 36s, 40s and 50s.

Predictions now are that production will begin to hold its own after showing a decline (October was the worst month on record), because Southern farmers will be able to give a hand in the spinning mills now that their crops are in and thus help offset the manpower seepage that has been plagueing spinners.

Total military requirements for the first quarter have not been officially tabulated, but it is felt that they will not be much greater than those before. If production should jump it would be to the advantage of civilian users. However, sellers are not holding out too much hope. Latest government requirement for 7,160,000 cotton undershirts, it is thought here, will need a certain amount of sales yarn even though made in integrated mills.

Inquiries remain about the same as prior to revision of M-317B, following which an increase was noted from civilians. These have tapered off because sellers have made it understood that they are still restricted by government directives. Net result is that civilians are taking whatever yarns are offered them and no questions asked.

A United States cotton crop of 12,320,000 bales of 500 pounds gross weight was forecast by the crop reporting board of the Department of Agriculture, based upon indications as of Nov. 1. The present forecast is 367,000 bales or 3.1 per cent above the forecast of 11,953,000 bales on Oct. 1, and compares with 11,427,000 bales produced last year and 12,455,000 bales for the ten-year (1933-1942) average.

With October's production of yarns the worst on record, new reports of absenteeism are causing some fear that November may not see a badly needed upswing to meet not only civilian but also rated orders.

Sales yarn sources have expressed much interest on the conference conference at Philadelphia Nov. 15, at which every branch of government purchasing will be represented. Predetermined settlement of government contracts will be discussed.

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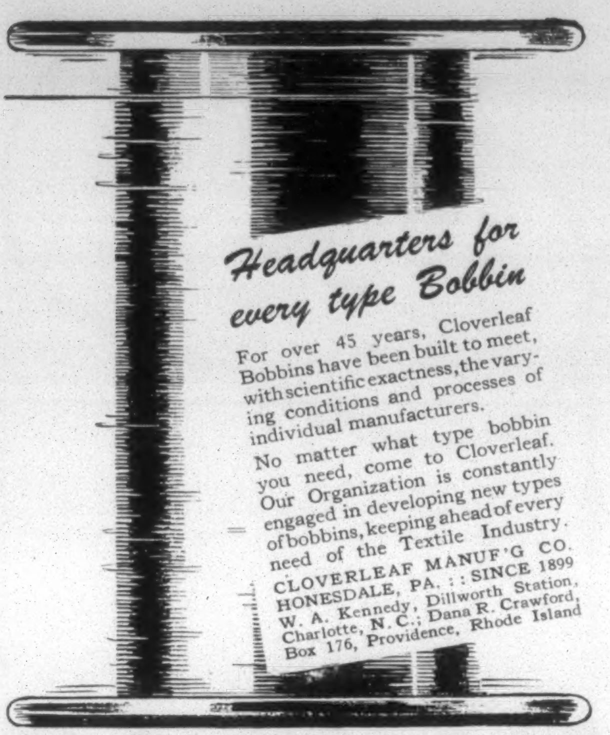

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A.S.T.M. Book of Textile Standards Available

The 1944 edition of the "Standards on Textile Materials" issued by the American Society for Testing Materials through the work of its Committee D-13 on Textile Materials, includes the more than 75 standard specifications, tests and definitions developed by the society and in addition, much other pertinent related information such as useful charts and tables, proposed specifications and tests, and abstracts of technical papers.

In the section on standards comprising the major portion (365 pages) of the book, standards on general subjects are given first, such as definitions, requirements on testing machines, tests to evaluate fire retardant properties, resistance to insect pests, micro-organisms, water, etc.; then the specifications covering specific textiles follow. These cover asbestos, bast and leaf fibers, cotton (the largest section), glass, rayon and silk, wool and others.

Appended material includes a yarn number conversion table and a relative humidity table, a proposed universal yarn numbering system, and a test published for information covering evaluation of the properties relating to the hand of certain fabrics. Abstracts of papers presented in the 1944 Committee D-13 meeting are included. These cover the cotton testing service; this service from the viewpoint of the breeder; raw materials problems; Grex universal yarn numbering system; and quality control in the supply of textiles to the armed forces.

The book includes a detailed subject index. Copies of this 490-page compilation are available from A.S.T.M. headquarters, 260 S. Broad St., Philadelphia 2, Pa., at $2.75 each.

U. S. Testing Opens Boston Office

United States Testing Co., Inc., this month opened a branch office at 286 Congress Street, Boston 10, Mass. The testing company has taken sufficient floor space to handle transit shipments of yarn, including the quantity testing of woolen and worsted yarns. Special laboratories have been built to handle diversified chemical and physical tests on textiles and other materials, and the laboratories are complete with up-to-the-minute conditioning equipment.

J. K. McWilliam, in charge of New England business, will have general supervision of the Boston branch and H. M. Block is Boston manager in charge of operations. Mr. Block is thoroughly familiar with all types of testing, inspection and handling of fabrics, yarns and fibers. He also has a thorough knowledge of the company's engineering and research facilities.

Industry Supplier's Publication Honored

The Raybestos Division of Raybestos-Manhattan, Inc., Stratford, Conn., was awarded a prize at the annual meeting of the Direct Mail Advertising Association held at the Hotel Roosevelt in New York City Oct. 20. Raybestos won this honor on its employee-serviceman house organ, *The Firing Line,"* which was judged among the 50 best promotional campaigns of the many participating.

The Raybestos exhibit presented the definite objectives strived for by the publication in keeping the serviceman informed, in reducing absenteeism, in stimulating war production, in increasing results in drives for war bonds, community chests, blood donors, safety, and health by increasing participation in the many sports activities made available.

Raybestos has also produced another interesting and colorful book entitled "Good Products Begin With Good Fellowship," and distributed it to all of its employees. This book outlines the many activities and benefits available at the Raybestos plant. It is stated that nearly half of its employees take part in Raybestos sports activities. Personnel executives interested in securing a copy of this book may write to W. S. Simpson, director of personnel at Raybestos.

Recent Booklets Describe Varied Uses of Ethyl Cellulose

Two technical booklets on ethyl cellulose, base of many plastics, adhesives, fabric coatings and electrical insulation, have been published by the Hercules Powder Co. cellulose products department. The 48-page booklet on "The Properties and Uses of Ethyl Cellulose" lists and describes the characteristics which have resulted in ethyl cellulose being accepted for so many industrial uses.

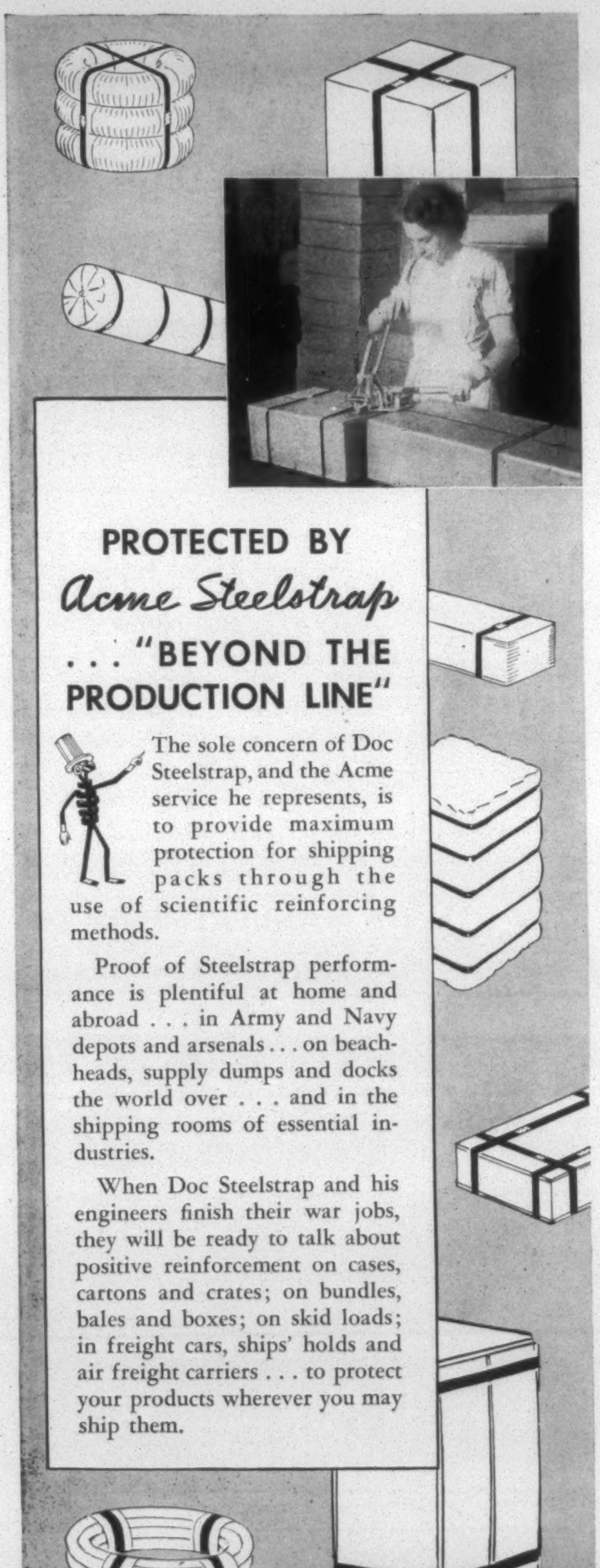
The booklet gives such properties as low flammability, freedom from discoloration by sunlight, toughness and flexibility even at very low temperatures, heat resistance, and usefulness in the formulation of plastics. It is divided into three parts. The first lists types and grades, general properties, and a blending chart. The second part deals with formulations, and the third part deals with specific applications of ethyl cellulose in various industries. Twenty-two tables and 11 graphs illustrate and explain the effect of ethyl cellulose in various formulations.

The second booklet, entitled "Ethyl Cellulose Formulations with Resins and Plasticizers," was prepared for those interested in making practical use of ethyl cellulose. To obtain the data in this book, a variety of 42 resins representing various commercial types were examined. The book is intended to eliminate unnecessary research on the part of experienced formulators by providing a basis for formulation of ethyl cellulose lacquers, adhesives, plastics, etc. Seven tables, showing the test results obtained on ethyl cellulose lacquers and nitrocellulose comparison formulas, are included in the section on application of date.

The War Production Board announced last month that the Combined Raw Materials Board has agreed to recommendations which would authorize United States importers to purchase raw silk in China, such purchases to be subject to existing U. S. controls. The permitted end uses of this imported silk have not yet been determined.

WPB said that applications may be filed under General Imports Order M-63 (imports of strategic materials) for permission to purchase and import such raw silk into the United States.

The use of raw silk is restricted under General Preference Order M-22, issued Sept. 30, 1942. Licenses to purchase and import will be subject to existing restrictions on the use of silk and to restrictions which may be later incorporated in Order M-22, or in other War Production Board orders, WPB said. It is not expected that this action will result in any large importations of China raw silk for some time to come, WPB said.



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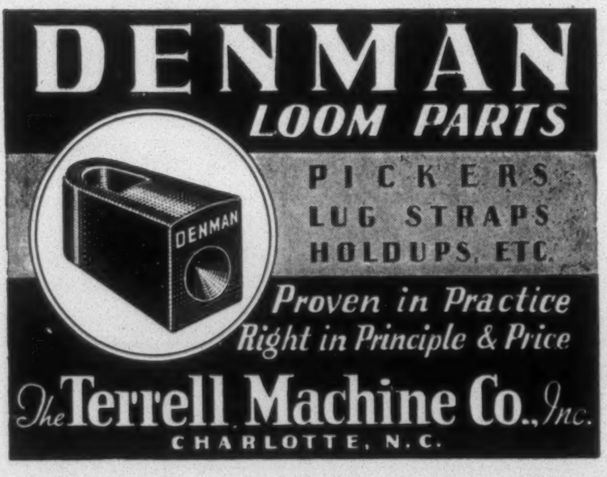
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Textile Engineering

(Continued from Page 20)—of this kind will be precision-built and must be operated under conditions radically different from those now employed. No one can doubt that the textile operations will be profoundly affected by these developments. It cannot be questioned that drastic and fundamental changes and developments in textile processes and equipment are in the making and will be greatly accelerated when peace comes.

The attainment of greater production in the future must come from plants especially designed and equipped to make this possible and which will contain all the factors in layout, equipment and structures that will make higher speeds and greater production permissible. A balanced design, from the opening room to the shipping room, must be provided. Such a plant, given proper raw material and intelligent supervision, will be able to speed up production far beyond anything now considered standard.

The manufacturer who desires to keep pace with progress faces definitely a substantial modernization program. He will face either rebuilding and re-equipping his plant or a drastic and expensive reconversion of his existing plant. Whatever decision he makes should provide for ultimately discarding much of the equipment now considered modern. Fundamental redesigns in equipment are even now in the making and proper provision in the plant and layouts of today can be made in anticipation of such developments.

Textile equipment as designed and built today can and will be run to obtain greater production than is now generally accepted as standard. Production now considered as standard is obtained from the average optimum speeds that have been found most economical in mills existing and operating today. There are many factors that control or regulate production that can be altered or changed and here is where the new and modern designed and equipped plant will have a great advantage over its older competitors and over many of the now considered modernized plants. Only a *new* plant can be completely modern, and the plants considered modern by the standards of ten years ago are verging on obsolescence.

Full-time operations will be necessary if textiles are to reap the full advantage of modern equipment. The investment in machinery and equipment will be much higher in proportion to the number of operatives employed. Only by utilizing fully the productive capacity of the equipment can its use be justified.

Summarizing, the textile industry is facing a thorough and drastic modernization. This will ultimately be from the ground up and from the opening room to the finishing plant. Machinery and equipment, design and layout must be engineered by the same standards that have been so successfully applied in other categories of industry. Much greater production per operative unit must be obtained. This will mean that production and lowered costs must come from mechanical facilities and power input and not from human energy. If the American textile industry is to meet and compete with world production it can do so only through the wider use of machinery and power. The low standards of pay in textiles will not return and it will therefore be necessary to obtain much higher production per operative. Lowered manufacturing costs will make the products of textile plants available for millions who cannot now afford them.

Fabric Base To Be Used in Making Larger Plastic Items

Monsanto Chemical Co. has announced its technicians have perfected a new synthetic resin which, when properly used in a low-pressure lamination process, will all but eliminate size as a restrictive factor in post-war plastics. The low-pressure lamination process uses textile fabrics as an important part in any finished item.

In effect, the company said, this means an entirely new field has been opened to the plastics fabricator, whose mass production output is now very largely limited to small items such as table radio cabinets, telephone cases, instrument housings, tablewear, compacts, etc. To produce even these through existing compression or injection molding methods, fabricators must employ large and costly machines whose size and weight progress in geometric ratio to the size of the plastic object being manufactured. Molded items larger than 36 inches across, other than flat sheets or panels, are today virtually unknown.

In low-pressure lamination, heavy machines are not needed. Moreover, manufacture is simplified by the fact existing three-dimensional items may be used as forms or molds, and thus duplicated in plastic. To produce a plastic bathtub, for illustration, the post-war fabricator will first make a textile coat to fit either the outer or inner dimensions of the mold, which in this instance might be a conventional bathtub. The textile coat then is impregnated with the resin, slipped on or into the mold, and baked for about ten minutes after the center of the laminate reaches the temperature of boiling water.

Because brightly-colored fabrics can be made to show through the transparent plastic, Monsanto sees an especially promising future for the new resin in luggage and trunks. Other prospective uses already listed include curved wall panels, trailer bodies, specialty fenders, boats, toy wagons and bobsleds, curved furniture, machine housings, reusable crates and drums, vermin-proof chests and vaults, airplane sub-assemblies and full sized radio and television cabinets.

The present output of the new resin is limited to military uses, most of which are of a secret nature, and for this reason is not available for evaluation on post-war applications.

Mills Urged To Promote Off-the-Job Safety Programs

Praising the management of textile mills for "an enviable record in its attempts to reduce the accident frequency rate," Prof. E. W. Winkler, acting director of the North Carolina State College Safety Co-ordinating Center and professor of electrical engineering, has urged an expansion of the textile industry's safety program to prevent off-the-job accidents which are twice as numerous as plant accidents. Winkler said that he made suggestions for improved safety measures at the recent meeting of the textile section of the 33rd National Safety Congress in Chicago and that he hoped that movements would soon be launched for more effective home and community safety programs in many sections of the nation.

"Management," continued Professor Winkler, "is too often inclined to take the attitude that the company has no responsibility in what happens off the job. Certainly man-

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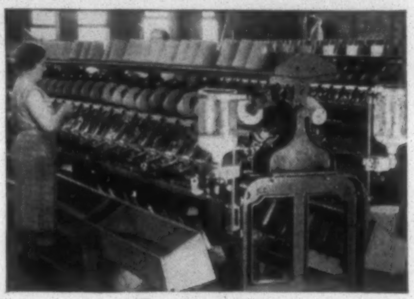

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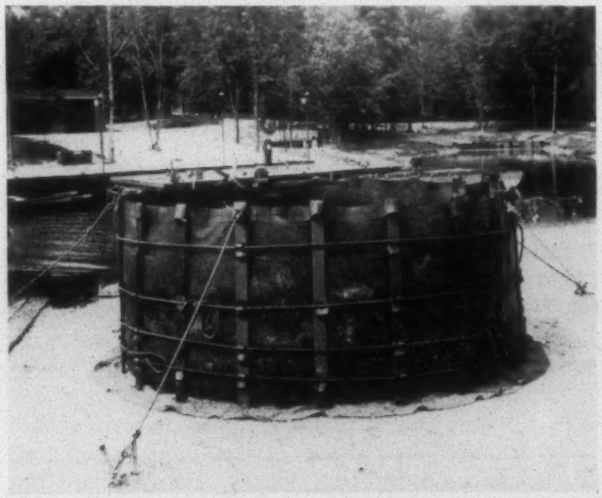
agement should realize that time lost by the skilled worker because of a home accident means financial loss to the company. The average textile plant has a great opportunity to promote home and school safety. First, it has a safety organization which can be easily expanded to include home and community safety. Second, it has access to certain forms of safety literature which can be integrated into community safety education. Third, practically all plants have a certain number of supervisors who have completed the 96-hour safety engineering course sponsored by the Department of Labor."

Offering suggestions aimed at decreasing off-duty accidents, Mr. Winkler said textile plants which have safety programs in operation might add the following features to their work: the appointments of committees on home, school and playground safety; pay the membership fee of the National Safety Council membership for the local school; supply homes with safety literature; and promote an annual meeting, probably in the form of a picnic, "where accident prevention could be stressed through games and contests."

"The war has shown us," Professor Winkler declared, "that we cannot afford to let accidents decrease our production and thus prolong the war. Industrial safety has been improved and accidents to workers reduced by vigorous promotion of safety education. But this emphasis has not been directed to home safety and as a result the past year's record shows about 30,000 workers killed in off-the-job accidents, and a much larger number temporarily or permanently disabled. The records alone prove that there is a great need for off-the-job safety promotion. From a national point of view accidents must be prevented to shorten the war; from a humanitarian point of view accidents must be prevented to prevent physical suffering; and from a spiritual point of view accidents must be prevented so that no man or woman will have to endure the anguish when accidental death takes a loved one."



To provide combat troops in the Pacific with an adequate supply of pure drinking water, a new type water storage tank made of glass fabric coated with synthetic rubber, has been developed by United States Rubber Co. working closely with the Army Corps of Engineers, and is now in production in four of the company's plants. Advantages are that it is not affected by rot or mildew. resists fungus growth, is light weight, extremely strong and durable and completely watertight. Since it is collapsible and can be compactly folded, it is easy to transport and set up in the field. The tank, which is 54 inches high and over 11 feet in diameter, will hold 3,000 gallons of water.

Fibre Shuttle Manufacturing Facilities Are Enlarged

Controlling every operation in the manufacture of its wooden shuttles, from the forest to the finished shuttle, the Southern Shuttles Division of Steel Heddle Mfg. Co., with plants at Greenville and Paris, S. C., has just completed installing at Greenville what is said to be the largest and most modern department for the manufacture of fibre shuttles.

It is laid out and operated on strictly assembly line principles, with specially designed and made equipment for the economical and high quality production of any type of shuttle making use of fibre. Special curing equipment has been developed and installed for assuring scientific curing or setting of the fibre to the wood.

As in the case of their wood shuttles, this company controls every operation, from the crude fibre and the wood, to the finished shuttle. Among products made are the conventional square shuttle as well as shuttles used in plush and velvet looms, with acute side wall angles, fibre covered.

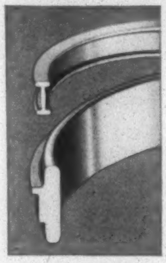
This department was made necessary to take care of the rapidly growing demand for the various types of fibre shuttles which the Southern Shuttle designers and engineers have developed and perfected to take care of the many synthetic fibres that are being introduced to the textile trade. One section of this department is devoted exclusively to the manufacture of silk and rayon shuttles with fibre covering.

Jute Industry Topics Are Discussed

Proposed revision of the War Production Board policy governing the allocation of raw jute in the government stockpile and the processing of applications for authorizations to make private importations of jute fibers from mills in Calcutta, India, were discussed at a recent meeting of the WPB jute spinners' industry advisory committee. The importance of delivering full military requirements of wrapping twine and marline before Jan. 1 was emphasized by government officials. They reported that there is still a large quantity of twine and marline that must be manufactured for military purposes during the fourth quarter of 1944.

Though industry members promised that they would make every possible effort to meet the requirements of the military program, they disclosed that they are experiencing difficulty in tarring hemp goods because of labor shortages and the lack of adequate tarring facilities. Navy officials have initiated steps to place the hard and soft fiber industries on the "must" job referral list with urgency production committees, in line with the listing already given for the production of wire rope centers.

To stimulate the writing of Christmas letters to employees in the services American Viscose Corp. is running full-page advertisements in the newspapers published in the cities where the company's seven plants are located. "Make sure that everyone you know in the service gets a Christmas letter from you" is the message, and emphasis is placed on immediate mailing. To facilitate the compilation of individual mailing lists, each advertisement contains a complete list of employees in the services from the plant in the city served by the paper in which it appears.



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ALLEN CO., 440 River Road, New Bedford, Mass. Sou. Repr.: L. E. Wooten, Fort Mill, S. C.

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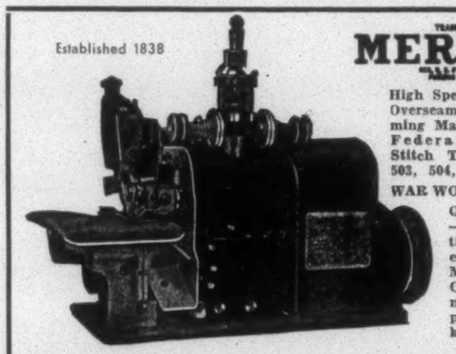

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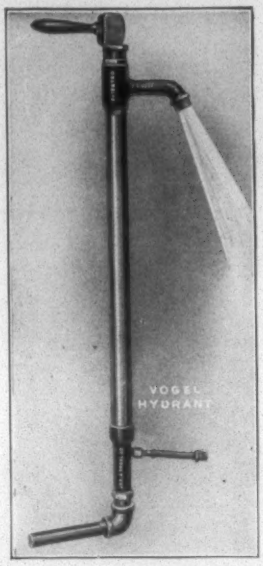

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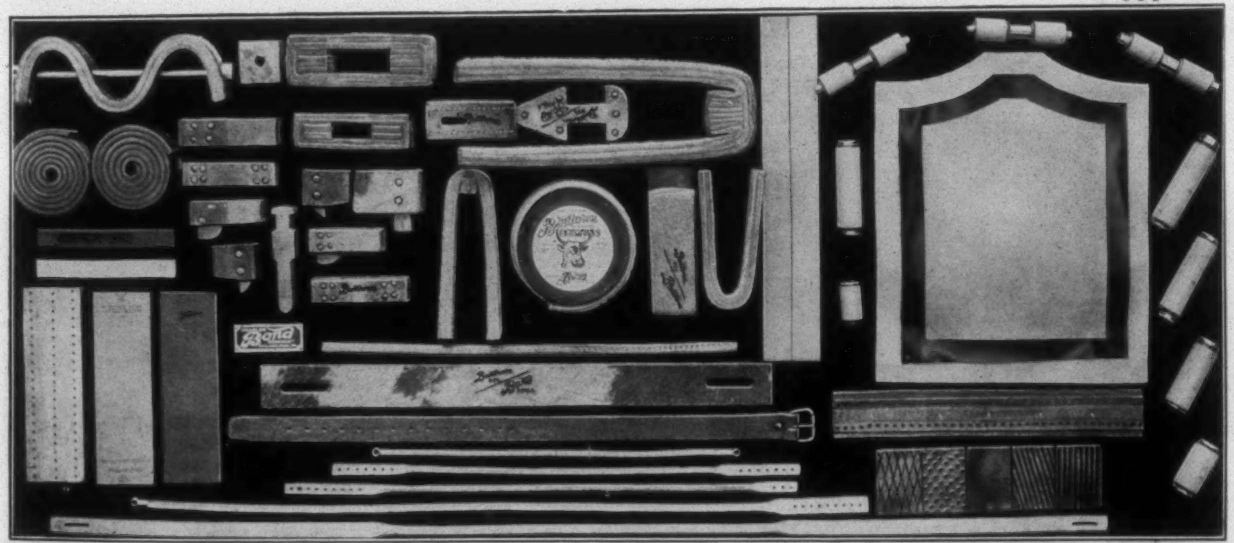

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